LIBRARY OF CONGRESS
COPYRIGHT
JUN 3 1889

6664

PRICE 15 CENTS.

JUNE 1, 1889.

THE AMERICAN ARCHITECT AND BUILDING NEWS

VOL. XXV. REGULAR EDITION NO. 701.

ARCHITECTURE

ENGINEERING

DECORATION

TICKNOR & COMPANY

CONSTRUCTION

BOSTON MASS.

CONTENTS.

Editorial Summary.
Malaria.—II.
Romanticism in Art.
Spanish Sketches.
Auguste Rodin.—IX.
Notes and Clippings.
Communications.

ILLUSTRATIONS.

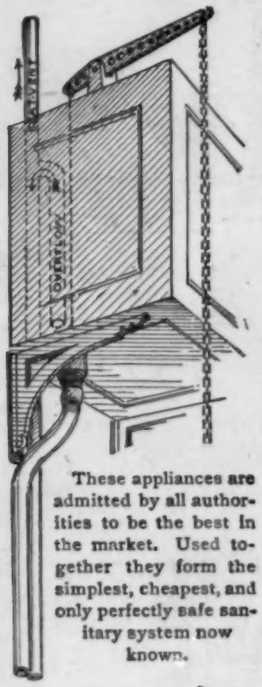
House of Grange Sard, Esq., Albany, N. Y.
(Gelatine Print issued only with Imperial Edition.)
House of E. J. Barney, Dayton, O.
Alterations to Building of the New York Club, New York, N. Y.
Baptist Church, Malden, Mass.
Building for the Berkeley Co., Berkeley, R. I.

THE CELEBRATED

SANITAS

PLUMBING

APPLIANCES.

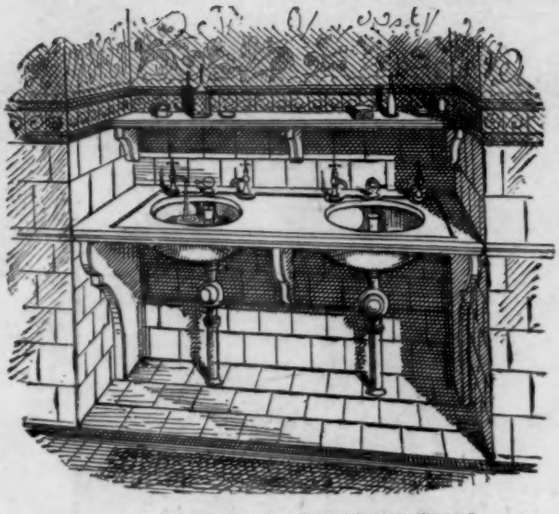


These appliances are admitted by all authorities to be the best in the market. Used together they form the simplest, cheapest, and only perfectly safe sanitary system now known.

"SANITAS" TRAP OPENED.

The Sanitas Trap, whether vented or unvented, has shown itself when properly set to be capable of resisting indefinitely, siphonage, back-pressure, and all other adverse influences met with in plumbing.

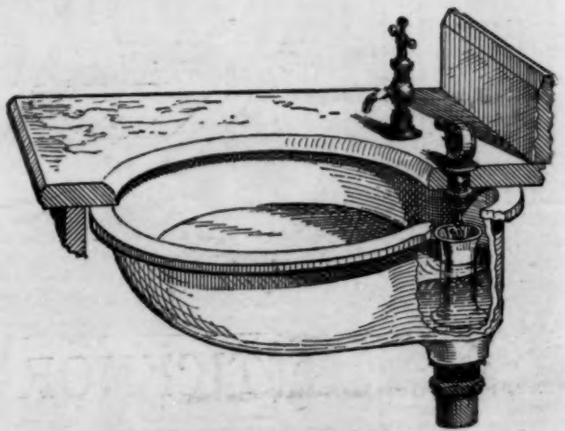
The "Sanitas" Basin flushes out the pipes and keeps them clean.



THE "SANITAS" WASH-BASINS AND TRAPS, Set in Tile-work

THE "SANITAS" MFG. CO.

THE "SANITAS" WATER-CLOSET.



THE "SANITAS" WASH-BASIN.

("SANITAS" BATH-TUB and PANTRY-SINK on same principle as Basin.)

SANITAS MFG. CO., 207 Tremont St., Boston, Mass.

Branch Offices: 64 Gold Street, New York, N. Y. 229 Walnut Street, Cincinnati, O. 47 to 49 Dearborn Street, Chicago, Ill. 316 Chestnut Street, St. Louis, Mo. Sole Agents for California: Arnold & Co., 40 California Street. San Francisco. Sole Agent for Canada: O. Higman, 236 Sparks Street, Ottawa.

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XXV. Copyright, 1889, by TICKNOR & COMPANY, Boston, Mass. No. 701.

JUNE 1, 1889.

Entered at the Post-Office at Boston as second-class matter.

CONTENTS

SUMMARY: —

Broken Volumes of the *American Architect* for 1882, 3 and 4. — The Result of the Ballot for the new American Institute of Architects. — Exhibition of the New York Cathedral Plans impossible. — A Charge of Suppressing Information. — Swiss and Italian School Buildings. — An Exhibition of Industrial Art at Philadelphia, Pa. — Architects' Schedule of Charges. 253

MALARIA. — II. 255

ROMANTICISM IN ART. 257

ILLUSTRATIONS: —

House of Grange Sard, Esq., Albany, N. Y. — House for E. J. Barney, Esq., Dayton, O. — Alterations to Building of the New York Club. — Baptist Church, Malden, Mass. — Building for the Berkeley Co., Berkeley, R. I. 258

SPANISH SKETCHES. 258

AUGUSTE RODIN. — IX. 260

COMMUNICATIONS: —

Pointing for Concord Granite. — Hemlock and Rats. 263

NOTES AND CLIPPINGS. 263

TRADE SURVEYS. 264

AS we forgot last year to offer certain broken volumes at reduced prices, as we have made it our practice to do, we ought in regular course to offer now the broken volumes for 1882 and 1883, but we have concluded to sell the 1884 issues also. The broken sets for these three years will be made up in lots of twenty issues each and sold for one dollar per lot. This arrangement will debar a purchaser from making his own selection but it will enable him to obtain, as the years are nearly complete, for seven dollars what is usually sold for more than three times that amount.

THE ballots for and against the consolidation of the American Institute of Architects and the Western Association of Architects were counted last week simultaneously in New York and Chicago. The vote of the American Institute was in favor of consolidation by a nearly unanimous vote, only nine negative ballots being cast, while the Western Association was even more emphatic in its approval of the plan, three votes only, out of two hundred and sixty-five cast, as we learn from the *Inland Architect*, being against consolidation. The date of the first Convention of the new Institute has not been fixed and will not be for some time yet, but the profession is to be congratulated on the unanimity with which the reorganized National Association begins its new career. May it have a long and happy life!

SOME of the New York papers are talking about the decision of the Trustees of the new cathedral, in regard to the competitive designs, as if they found some sort of public grievance in it. The *Times*, for example, thinks it very strange that the designs of comparatively unknown men should have been selected, to the exclusion of those made by architects of long experience and well-earned fame, and thinks that if a public exhibition of the drawings had been made before the decision, the Trustees would have been assisted in coming to a more correct conclusion. We are quite sure that no architect has been concerned in any of these complaints, and hope that the profession will use all the influence it possesses in repressing them, and in upholding the decision of the Trustees as having been made with the most conscientious care, and under the best and most impartial expert advice that this country could furnish, and as being final and binding upon all persons who think that courtesy and honor are the first consideration in such matters. The *Times* has perhaps a shadow of reason for thinking that a public exhibition of the designs might have conduced to a correct decision, the judgment of a large number of people, exercised upon objects which have become familiar by repeated inspection, being generally good, but in the case of the cathedral, as we understand, the Trustees wished to have such an exhibition, but were prevented by the refusal of a majority of the competitors to allow their drawings to be shown in public before the decision, so that the blame for this, if there is to be any blame, should fall upon the competitors, and not upon the Trustees, who have, as it seems to us, done the best that they could, and all that any one could do, to secure for their great church the best design that the architects of the present day can furnish.

WHAT a common foible it is of humanity — architectural humanity of the American species — to suspect enmity and malice at every turn! This peculiar form of introspective sensitiveness has long been understood to be a peculiarity of artists, but architects who undertake to handle everyday matters in this work-a-day world ought, one would suppose, to have enough common-sense in their make-up to be able to realize that ninety-nine per cent of the inhabitants of the world are wholly indifferent to the success or failure of their fellows, and that the number who delight in malicious acts at the expense of others is infinitesimal indeed. The latest instance of this supersensitiveness with which we have been confronted is the charge brought against us by the "friends" of Mr. W. W. Kent, who maintain that, in giving the names of the successful competitors in the New York Cathedral competition, we "suppressed" the fact that he was associated with Messrs. Heins & La Farge in the preparation of their design. As the friends of General William Sooy Smith, who, it appears, was also an associate in this undertaking, have not brought a like indictment against us, we infer that engineers, being of less artistic temperament, have friends of sufficient *savoir-vivre* to know that it is not necessary to charge malicious "suppression" in order to effect a desired correction of an inaccurate statement. To Mr. Kent and General Smith we desire to say that at the time our statement was made we were wholly ignorant of their connection with the competition.

HERR CARL HINTRAGER, of Vienna, is an architect who has chosen to make a specialty of the design and construction of school-houses, and, in pursuance of this resolution, has made, what architects who have school-houses to design do not always consider necessary, a study of what has been done by others to fulfil the requirements peculiar to structures of this sort. Herr Hinträger is now, as we learn, engaged in the study of American school-houses, which will furnish him at least a rich variety of examples of what to avoid, and, meanwhile, has published an essay on Swiss and Italian school-buildings, which was first read before the Austrian Society of Engineers and Architects, and has but one fault — that it is far too short. As most architects know, the ideas of the Swiss in regard to instruction in schools, the division into classes, and the separation of the sexes, are very similar to ours, perhaps more nearly so than those of any other people in Europe, and their school-houses furnish, in consequence, models which can be adapted to our use almost without change. Moreover, the attention of architects has of late years been drawn particularly to their planning and construction, by the well-conducted competitions through which designs for nearly all of them are obtained, and, while the earlier buildings are perhaps no better than ours, the more recent Swiss school-houses are admirable, to a degree which one who has not studied and compared many school-house plans can hardly comprehend, in all the details of their arrangement. As in most of our States, education in Switzerland is compulsory, all children being required, by strict laws, zealously enforced, to attend school from their sixth or seventh year to their twelfth, thirteenth, fourteenth or fifteenth, according to their circumstances, the cantons fixing their own regulations in this respect, and, much more than with us, the erection of handsome, well-planned and well-situated school-houses, "the people's palaces," as the Swiss call them, is a matter of pride to even the smallest villages, so that, as Herr Hinträger informs us, a town like Aarau or Zofingen, with four or five thousand inhabitants, will spend two hundred thousand dollars on school-buildings, in addition to the cost of the land. In the country districts, it is common for several villages to unite in the erection of a substantial and well-planned building,

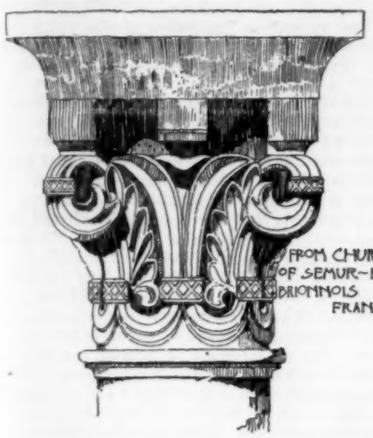
which is placed in the most healthful location that can be had — never in an abandoned graveyard, as in a case we once heard of in Massachusetts, and is arranged with particular reference to securing the best effects of air and sunshine that it is possible to obtain. There is just now a discussion whether an aspect due south or southeast is most favorable to the health of the children who are to occupy the school-rooms, but some sort of southerly aspect is secured in nearly all school-houses. In plan, the structure is divided like our own modern school-buildings, into class-rooms, arranged to accommodate not more than fifty pupils each, and approached by a brightly lighted corridor, often sixteen feet or more in width, which affords facilities for the orderly movement of the children to and from their places, at the same time that it furnishes them with a play-room for stormy weather.

IT would take too long to mention the other interesting pecularities of the Swiss schools, which Herr Hinträger describes in his book, but we ought not to omit a reference to the gymnasiums, which are attached to nearly all school-houses, in compliance with the Federal Law, which was passed in 1878, and requires that all Swiss boys shall have regular training in gymnastics during the last six years of their school life. In most cases, the gymnasiums, or turn-halls, are airy buildings immediately connected with the school-houses, and well supplied with apparatus, so that they may be, and often are, utilized, out of school hours, by clubs or private persons. In all but the compulsory addition of a gymnasium to the other accommodations, the modern Italian school-houses closely resemble those of Switzerland. It is hardly necessary to explain to any one who has the smallest notion of what has been going on in Europe since 1860, that the Italy of the German writers, that produced nothing but hand-organ grinders, while the rest of Europe was trying to civilize itself, has long ceased to exist, and the Italy of to-day, in its efforts for popular education, presses closely on the heels of Switzerland, the foremost of European nations. Herr Hinträger, to give an idea of the average amount of money devoted by the Italian cities every year to the erection of schools, quotes the official statistics for 1881, which show that in that year Turin, a town of two hundred and fifteen thousand inhabitants, spent three hundred and seventy-five thousand dollars in new school-houses; Genoa, with a population of one hundred and sixty-five thousand, spent two hundred thousand in the same way, and Naples, which we commonly picture to ourselves as being inhabited almost exclusively by lazzaroni and brigands, expended four hundred thousand. As architects will easily conceive, the new Italian school-buildings are of the most substantial character. As in Switzerland, a very wide corridor, with ample windows, occupies most of one side of the structure, and gives access to the class-rooms, which occupy the other, and are limited to a capacity of fifty scholars each. The class-rooms face directly south, and a spacious cloak-room often intervenes between them and the corridor. The building has no cellar, but the first floor is raised above the ground, and the space under it is left open, so that the air can circulate freely through it. In Rome, where the antique traditions perhaps prevail more completely than in the newer cities of the north, the corridors and wardrobes in each story are covered with barrel vaults, two inches thick, made of tiles, cemented together with puzzolana, and levelled up to receive the tile floors. The roof is of the same construction, but, to prevent the heat of the sun from affecting the rooms under it, dry gravel is put over the tile vaults, and the roofing formed with tiles covered with asphalt.

AN exhibition of American industrial art is to be held at Philadelphia, in the Memorial Hall in Fairmount Park, from October 7 to November 18 next. The exhibition will comprise objects of pottery, porcelain, glass-ware, tiles, terra-cotta, mosaic and stained glass, and prizes are to be given, on the award of competent experts. The stained-glass section, which is the one which will most interest architects, is under the charge of a committee, of which Mr. Theophilus P. Chandler, Jr., is chairman, and an earnest invitation has been issued to all Americans engaged in making stained-glass to contribute their best work, which will be shown under as favorable conditions as possible by glazing the arcades in front of the building. In addition to gold, silver and bronze medals for the best domestic, ecclesiastical and plain leaded work, a special prize of two hundred dollars in money is to be given to the author of the best cartoon for a figure or ornamental window, accompanied by a sketch showing the scheme of color. Mr. Chandler's committee calls attention to the fact that, although an immense quantity of stained-glass is imported into this country every year, the art of making it and putting it together has advanced greatly in this country during the past decade, and it may well be doubted whether England, Germany or France could make a better exhibition of the sort than would be presented by a collection of the best work of the best American makers and designers. We are willing, for ourselves, to go still further, and to say that in the opal glass invented and improved in America we have a material which has doubled the resources of the glass-painter; while the methods in which even transparent glass is used here, by plating, drilling and insertion of colors, and casting of pieces, and so on, afford whole fields of delightful novelty, as yet unexplored. That these methods are always used here with perfect taste we do not pretend, but the best of the modern American work is, in our humble opinion, so infinitely superior in technique to that done elsewhere that a good collection of it will be worth a long journey to see.

SOME time ago, a firm of architects wrote to the *Engineering and Building Record* for comment upon two forms of schedules of charges, which they had proposed to use in their own practice if they could decide which was the better of the two. The first schedule contains rates of commission for buildings of different cost, at about one-half more than the common charges, with the explanation that for these prices the architects will keep, at their own expense, a clerk-of-works constantly on the ground in the case of structures important enough to require such care, and will assume responsibility for the supervision of the execution of the work. In the second schedule, which is more like that in common use among offices, the fee is set at various sums for buildings costing less than seventy-five hundred dollars, seven hundred and fifty dollars for those costing from seventy-five hundred to fifteen thousand dollars, and five per cent for those costing more than fifteen thousand dollars, the employment of a clerk-of-works being strongly advised in all cases, and the stipulation being made that, where one is not employed, the architects will not be responsible for any defects in workmanship which might have been avoided by such supervision as it is the province of a clerk-of-works to give. To both the schedules the usual clauses are added, providing for the rate of charge for monumental and furniture work, for selection of stuffs and furniture, for partial service, ownership of drawings, and so on, besides some novel, but excellent stipulations, to the effect that if the owner mentions requirements both as to the accommodation desired and the amount to be expended, the architects will not undertake to conform to both of them, but will agree to conform to whichever one the owner may select, and to comply with the other as nearly as circumstances will admit; and further, that if the owner specifies a certain limit of cost before the working-drawings are prepared, and at the same time insists upon items of accommodation, structure and finish which, in the opinion of the architects, will cause the cost to exceed the limit specified, the usual commission shall be paid for the plans, even though they may be discarded, when the estimates are received, on account of the excessive cost. As it was not our advice that was asked upon these schedules, we will not intrude it; but the publication in the *Record* has hardly elicited the discussion that the subject deserves, and we would like to do what we can to revive the matter, and we may, at least, express our satisfaction with the way in which the schedules in question have been drawn up. If architects generally would be as prudent and business-like in making terms before they began their work, they would be much better pleased with their clients when they got through, and their clients with them. The question of whether the architect shall under any circumstances provide a clerk-of-works at his own expense is complicated by the consideration that the owner may be more likely to allow the building to linger along, to the great detriment of the architect, if it is the latter who pays the clerk-of-works; but there is something to be said on both sides, and we trust the whole matter may be thoroughly discussed, and some united action taken, at the first convention of that vigorous young Institute which is to do so much for us all, whenever its somewhat protracted incubation shall be completed.

MALARIA.[1]—II.



A CAREFUL study of the subject of malaria has recently been made by Dr. Nicholas,[2] the Health Officer of the Panama Canal Company. He says that the atmosphere over marshes is more plentifully charged with bacteria and with filamentous algæ, than is that over healthy land. He quotes from Mourel, who says:

"The explanation is to be found almost solely in the configuration of the marsh and the change of its level at intervals sufficiently long for the ground uncovered by the water to become completely dry — ground which, dry at the surface, is damp underneath, and that these zones occupy a surface of considerable extent. The minute organisms of the marsh cannot escape into the atmosphere so long as the ground remains covered by a sheet of water. This sheet of water is a preservative screen. All who have studied the progress of paludism understand this. It is the same with those parts that are mainly humid; the minute organisms find in this humidity a cause of adhesion sufficient to resist atmospheric movement and remain attached to their natural medium. But let them dry, let the *chroococaces* which had formed a uniform coating become separated by heat, let these amibes, momentarily transformed into minute pellicles, lose all adhesion with the bodies about them, and all of these minute growths will be lifted by the least movement of the atmosphere, which may thus maintain them in suspension. To appreciate the quantity that may enter the respiratory passages, it will suffice to recall the fact that my experiments never covered more than 100 litres of air, and that, notwithstanding, each drop of liquid contained some of these organisms, and if some among these had perished, others, on the contrary, had not suffered enough from desiccation to prevent them from resuming their activity and continuing (in the body) a life all the more active because they there found, at least, two conditions most favorable to their existence: warmth and humidity. Of all of the parts of a marsh, only one interests us; it is that which, recently dried, still retains at its surface organisms dry enough to be taken up by the atmosphere, but at the same time not dry enough to have lost their life. It is this zone that I have designated for a long time under the name of the *dangerous zone*. . . . It is true that in the analysis of a salubrious air, these microbes may have been seen to develop, after a certain time, in the water by which the air has been washed, or in water of condensation. This has always required a considerable time, while in the atmosphere of marshes, I have met them in a full state of development."

Dr. Nicholas thinks that:

"These considerations relative to the 'dangerous zone' of swamps explain why the presence of visible water is not indispensable to the production of fevers, which may break out in a country, maintain themselves, disappear, and reappear when, whatever may be the nature of the ground, earthworks expose to the air the products of incomplete decomposition which have accumulated in the earth and are disengaged by the excavation (Cheveruel). This is the condition of the Roman Campagna."

Nicholas adduces the opinion of Leon Colin that the ground here considered is not properly a marsh, and that the influence producing a miasm is rather telluric than paludal; that it is not the effect of the putrefaction of organic matters, but of an influence due to the soil itself. Dr. Nicholas thinks that:

"The disturbing of the earth in the construction of the Panama Canal was not of itself the greatest source of malaria. Outbreaks of fever were not so much in proportion to the excavations as to the changing of the hygrometric conditions of the ground; for at the Isthmus, as elsewhere — daily observation demonstrated this in all the camps — the particular source of tropical insalubrity is a marsh. Excavation and filling are inoffensive when they do not cause the standing and stagnation of water, whether of rain, of springs, or of a river. On the contrary, a marsh is quickly constituted in a country where the vigor of vegetation in the course of a single season covers under a mantle of growing forest all trace of the most recent work, and everywhere where this occurs the marsh infects the seat of the work, and the encampment as well. Arid though they are, the virgin lands of hot countries need only a stroke of the spade to develop pernicious water; but they are all made salubrious by drainage, and, in order that malaria may be produced there, it is always necessary that the water should have entered the ground (*fecondé le steppe*), whether on the banks of the Tarim at an elevation of 1 to 3,000 metres, in the desert of Gobi, or in the fertile valley of the Euphrates or on the banks of the fluctuating White and Blue Niles. It often suffices that the course of a torrent, of a river, or of a small brook should be arrested where the banks are low, in order that malarial mortality should be aggravated as a consequence of inundation; and it is thus that we have seen an increase in malarial death on the course of the Missouri and of its affluents, the Kansas and Yellowstone. It is not without interest, at least when we are considering the effect of excavations, to know that the number of germs, of whatever sort, decrease on virgin soils with the depth of the cutting. Microbists are unanimous in this opinion. According to Frankel, the number of microbes at a depth of 1.25 metres is six times less than at the surface. According to Maggiora, the number is much less in desert and forest soils than in cultivated lands; that is to say, as Duclaux has remarked, the number will vary in a soil that is neither inundated nor too dry with the quantity and quality of organic matters. It will be readily appreciated that Maggiora has found the number to be inversely to the geologic age of the ground, to altitude, to compactness and to impermeability, and that it increases with the richness of manuring and the thoroughness of cultivation.

"In closing, I will confine myself to reminding coniographers, and especially sanitarians, that neither humus nor water, nor their association in a marshy soil, is absolutely necessary to the evolution of malarial germs in localities subject to paludal fevers. It suffices that these germs find in fog the humid medium that is necessary to them, and the fog does not require for its formation the presence of a marsh in the locality. It results from the difference of temperature between two contiguous layers of air, whatever may be the cause of the cooling of one or of the warming of the other, subject to the condition that the air contains watery vapor. Aërial germs will grow in this medium as well as in the 'dangerous zone' of marshes, which, until further knowledge is obtained, will remain none the less, in my opinion, the origin of impaludism in the immense majority of cases. In insisting on the aërial marsh in Panama, I did not recall the *rôle* attributed to fogs in the Roman Campagna by Baron Michel and by Leon Colin, who regard the subject from different points-of-view. Although these works were already old, and although the influence of fogs has always been admitted in Algiers, from the first years of the occupation, as well as in Madagascar in the most recent experience, I was acting only on my own observation and on the testimony of the officers of the Canal service; but I am happy to find support in the opinions of learned *confrères*, although they are differently founded from my own. It is not, let us believe, by 'condensing the miasmatic vapor in the lower strata of the atmosphere' that the nocturnal cooling increases the intensity of the miasm, but in creating the aërial marsh (fog) in which germs may undergo their development. It is not necessary that the germs should emanate from the soil itself, that they should come in the state of *maturity* from more or less marshy neighboring regions; but such a soil may be more favorable to them, because, being moist, fertile or mountainous, it furnishes more humidity to the air; or because, being naked, flat or dry, its radiation is greater, and by giving more heat to the lower strata of the atmosphere it increases the thermal variations between day and night.

"This interpretation does not simplify the question of malarial hygiene, and I can conceive that sanitarians may have regarded the conclusions in a certain sense desperate. It is not, however, unimportant to face the evil where it really exists. I have never favored a system of morals or of therapeutics which did not begin by seeking out the sore spots to give them better care; and if, in a given locality, impaludism has its centre of action in fog, aside from the necessity for giving protection against the fog, it is not always impossible to modify the conditions of the soil which favor its formation.

"Where the restricted area of a marshy country has permitted us to attack it rapidly and to conquer it by a single effort, success has almost always been achieved: Either (*A*) by the direct drainage of the ground, by open canals or by underground conduits, like the system of drainage which has made healthy the environs of London and the principal districts of England; or (*B*), on the contrary, by flooding, which transforms the marshy surface exposed to the heat of summer into inoffensive drowned marshes, the means anciently employed by Empedocles, who rescued the Salentians from a cruel epidemic by discharging the water of a river over the marsh that surrounded their city. In the same manner, Lancisi arrested the development of an epidemic caused by the exhalations of the moat of the fort of San Angelo, and that frequently Hollanders have in like manner stopped the attacks of intermittent fever;[3] or (*C*) by filling the depressions of the marshy soil with solid materials, bringing it to a uniform level, and suppressing the pond-holes resulting from inequalities of grade. It is only necessary to mention the good results that follow the regulation and diking of canals and rivers, measures whose neglect may occasion serious epidemics. The same may be said of accidental seats of malaria, which are frequently developed along the line of railways by the neglect of accumulations of water forming in borrow-pits established during construction."

Loomis says:

"Drainage is another means which diminishes, and, in certain conformations of soil, entirely destroys malarial generation. In the majority of marshes, this generation can be arrested or prevented by free drainage."

A case of the creation of malarious conditions by an obstruction of natural drainage was fully set forth in 1882 in a trial held before the Superior Court at Pittsfield, Mass., between the town of Lenox and the Smith Paper Company of the adjoining town of Lee. The paper company had raised its dam and flooded a large tract of river-bottom that had previously been dry. In dry seasons, when the flow of the river was insufficient for its uses, the company used the water thus stored, thereby exposing large tracts of the flooded land to the action of the sun and air. The flooding had the further effect of

[1] Continued from page 247, No. 700.

[2] "*Chantiers de Terrassements en pays Paludeens*," par L. Dr. Ad. Nicholas, Paris, 1889.

[3] It was thus in 1748, during the War of the Succession of Austria, that the Hollanders inundated their kingdom for defence. At the beginning of the summer, which was excessively hot, preliminaries of peace were signed and the waters were drained off. Thereupon a serious epidemic was developed, and the States General ordered a new inundation until the beginning of winter.

preventing the adequate drainage of lands lying adjacent to the extended water surface, and converted these into swamps. This was accompanied by a serious outbreak of malarial fever previously unknown in that district, which led to the trial. The unfortunate error was made of bringing a criminal suit against the company for maintaining a nuisance, requiring for its success the unanimous verdict of a jury of twelve men, each of whom must be convinced "beyond a reasonable doubt" that the cases of illness described had been caused by a condition clearly resulting from the raising of the dam.

Dr. Adams's paper[1] concerning this case, after summing up the testimony on both sides, continues:

"The closing argument for the defence was made by Judge Soule. He called attention to the difference of opinion among the medical and sanitary experts as to the causes of malaria, which rendered it impossible, he contended, to fix the responsibility for the sickness at New Lenox upon the defendants' dam. He quoted from the testimony of nearly all the experts that the malarial poison is introduced from without, and is prevalent in epidemic form over a large region of country. He showed that only about half the witnesses had noticed any bad smells in the vicinity of the reservoir, whence he argued that the fact of smells had been exaggerated. Finally, he referred to the importance of the interests involved, and said that the result of removing the defendants' dam would be to stop the busy wheels of Lowell and Lawrence.

"The District Attorney, in closing for the Commonwealth, quoted from the testimony of witnesses to show that before the dam was raised the amount of boggy land was very small, and produced grass; that the 'pockets' were dry, the water clean, and the locality a very healthy one. The raising of the water-level, caused by raising the dam, made the valley swampy, caused water to stagnate in the pockets, and converted a healthy valley into a foul marsh, where malaria found its natural breeding place. The sufferings, loss and general deterioration of the community, resulting from constantly recurring attacks of fever and ague, were well depicted. The remarkable changes of opinion on the part of certain experts for the defence were not overlooked. He also showed that all examinations of the reservoir and measurements of the depth and fluctuations of the water, testified to on behalf of the defendants, were made during the present year [1882], when the supply of water has been abundant, and the bottom has been hidden from sight. He contrasted this condition with that in 1880, when, in consequence of drought, a great expanse of marshy bottom was for months exposed to the sun and air, and the deeper portions kept alternately wet and drying, which condition is liable at any time to recur.

"Judge Brigham, in his charge to the jury, explained those legal and technical points which were calculated to confuse and perplex, and placed the essential points in the case in their clearest light. He did not especially favor either side of the case, but left it for the jury to decide from the evidence whether or not the defendants' dam had been proved a public nuisance and a cause of the prevalence of intermittent fever in its vicinity.

"The jury, after being out twelve hours, brought in a verdict of '*Not Guilty.*'"

This was not a verdict justifying the raising of the dam, nor against the probable injury resulting from an obstruction of the natural drainage of the land. It was only a verdict that the causation of malaria and the method in which the condition of these lands had caused malaria in this case had not been so established "beyond a reasonable doubt" as to warrant the conviction of the Messrs. Smith on a criminal charge. Although there is a general concurrence of opinion on these matters, there is to this day no such positive and unquestionable knowledge as would warrant such conviction. I was an expert on the side of the Commonwealth in this case, and I felt satisfied that not one of the experts on the side of the defendant would be willing to assert that the conditions under consideration had not better be avoided.

The suggestion was made some years ago by Dr. Bronson, of New Haven, though not in distinct terms, that malaria may be transported from one locality to another through the medium of population. He refers to its failure to reach certain localities suitable for its development because there were no habitations to serve as stepping-stones for its progress, the idea obviously being that while malarial germs may not be transported for a considerable distance by currents of air, they may be carried in the person of one who has contracted the disease in one locality to ground elsewhere favorable to its development. This idea is not generally accepted, nor can it now be proved to be true. There is nothing in the history of the progress of the affection by slow stages over long, continuous reaches of country to controvert it. So far as malaria has followed the progress of railroad construction, for example, it may have been caused by the successive development of malarious conditions as the work extended. This, however, does not satisfactorily explain such a movement as that along the line of the New Haven Railroad from New York, and up the Connecticut River valley as far as Vermont and New Hampshire, the movement taking place long after the completion of the roads.

All observations as to the development of malaria and as to its elimination, while conforming more or less completely to the theories of all the different authorities, tend only to confirm the opinion that, so far as nearly the whole area of the United States is concerned, this development is in close relation to *undue soil-moisture* and to the undue prevalence of fogs or mists resulting therefrom; and that by drying the soil, and thereby greatly reducing or entirely removing mist and fog, we invariably reduce the intensity of malaria or remove it altogether. There is but one known means for effecting this change; that is, by removing the excessive moisture of the soil both by underdrainage and by such a regulation of the surface as shall prevent the accumulation of standing water in or on the surface-soil; that is to say, the sovereign remedy for malaria is drainage — not necessarily a thorough drying of the soil to a great depth, but only such as will bring it to its best agricultural condition.

The limits of temperature often assumed to control the development of malaria have not been fixed with certainty, nor do writers on the subject agree as to what the necessary degree of heat must be. We have ample evidence that the autumn temperature, even of our more Northern States, is sufficient, if other conditions are satisfactory, and if the germ is present; that is, if the soil is infected, for it may be safely assumed that, like many other prevalent diseases, malaria is due to a living germ, whether the *bacillus malariæ* or another. It has been sufficiently shown that what was long regarded as an essential factor, that is, the active decomposition of organic matter, is not indispensable. Many soils poor in organic remains are peculiarly pernicious if sufficiently moist and warm; while many swampy localities, of which the soil is made up almost entirely of decomposing vegetation, do not necessarily produce malaria. If in the condition of actual saturated swamps, they are much less likely to produce it than are soils of which the organic matter is less in quantity and in a much less active state of decomposition, but which are still far from being saturated. The malaria-producing capacity of large areas in California in which organic matter is not a prominent element of the soil, wherever irrigation is applied, sufficiently illustrates this.

In 1878, I made a sanitary survey of the east bank of the Hudson River between Dobbs Ferry and Tarrytown, where, at that time, there was a considerable prevalence of fever-and-ague. The following is extracted from my report in that case:

My observations were made chiefly with reference to fever-and-ague malaria. It must be stated at the outset that we are practically without knowledge as to the causation of this disease. There are, however, grounds for adopting a somewhat definite theory about it. It seems clear that to a certain extent the disease, which may originate in specially unhealthy places, propagates itself slowly through human agency.[2] It is a well-known fact that it has gradually spread from its earlier centres, and extended for a long distance into districts where it was previously unknown. Instances of this are too familiar to need recounting. In like manner, districts where the disease formerly prevailed, and where it had originated spontaneously, have been made by drainage perfectly healthy. For example, the fens of Lincolnshire, in England, and marshy districts along the lower Thames, were formerly greatly scourged with fever-and-ague and with malarial neuralgia. The extensive drainage operations carried on in these districts have had the effect of removing these ailments entirely from wide districts where they had formerly prevailed with the greatest severity.

The investigations thus far made lead to the following belief concerning the point which chiefly interests such localities: Assuming that fever-and-ague is indigenous, or that it has been brought to a locality by the movement of population, it seems clear that it propagates itself only under the influence of certain conditions of atmosphere, which are produced by undue soil-moisture, by the excessive decomposition of vegetable matter, and by the stagnation of the air caused by dense planting, and by the absence of sunlight.

Assuming, as I believe one may safely do, that fever and ague is not indigenous in the Irvington neighborhood, but has been brought to it, so far as it exists there, by the importation of cases of the disease, we have to look for such local conditions as would foster it and lead to its reproduction and localization.

So far as my examination warrants me in forming an opinion, I should say that there do exist, more or less throughout the whole district examined, sufficient resting-places for the infection, associated with conditions which would naturally lead to its propagation. I think it may be safely assumed that a detailed examination of the ground would lead to the discovery of these unfavorable spots, and that it is possible to remove them. At the same time, it must be understood that this opinion is not based on positive knowledge, for such knowledge does not exist. All that it is safe to say is that, judging from the previous experience of the world, proper efforts would, in all probability, result successfully. There are two leading items which have influence on this question. Drainage and ventilation.

Drainage. — Except along the river, and about certain ponds some distance east from Broadway, there are few especially wet areas, but there are very many points where small bits of ground are too wet, and these are quite frequently so shaded from the sun as to be more than suspicious. Also, the prevailing passion for ponds, which often follow each other in quick succession along the lines of the brooks, is not without its bad influence. These ponds are often much too high with reference to the surface of the ground adjoining them; they are subject to become filled with silt and leaves; they are not always well supplied with fresh-water, but are frequently fed with water from swamps about which it would be unsafe to live, and the brooks supplying them receive a good deal of organic matter in the form of leaves, etc.; in addition to all this, the filtration from

[1] *Boston Medical and Surgical Journal*, December 28, 1882.

[2] I now attach much less importance than I then did to the agency of the person in the spread of malaria.

these ponds is sometimes a source of a springy condition of the ground lying below them.

There are still some small areas and some large areas which, in the interest of the whole neighborhood, ought to be thoroughly drained. I judge that about one-half, or nearly that of the whole shore from Tarrytown to Dobbs Ferry is swampy for a greater or less width, the small bays cut off by the railroad being imperfectly drained, receiving much water from the upland, being subject to the rise of the tide, and often having considerable stretches of their bottom entirely uncovered. All of these conditions are unfavorable.

Ventilation. — Perhaps ventilation is not precisely the word to express what is here meant, except in the sense that what is needed is an abundant supply of fresh-air and sunlight. The decomposition of organic matter in or upon a damp soil takes on a very different character, according as it is freely exposed to the circulation of air and to the sun's heat, or is covered either by water, by fallen leaves, by underbrush, by dense planting or by anything which may seclude it from the most active oxidizing influences.

It is an old but mistaken idea that it is hard to grow a tree and easy to cut one down. The reverse of this proposition is nearer the truth. Wherever prosperous humanity establishes itself there seems to spring up, as if by magic, a cloud of leafage and a dense growth of all manner of aborescent vegetation, while every appeal having for its purpose the restraining of this ground-cumbering growth is met by the most persistent opposition. Not only will trees and bushes and shrubs multiply and shut out acres upon acres from the sun's rays and turn aside every breath of air, but the trees and bushes and shrubs accumulate until they destroy each other's beauty to that degree that plantations fifty years old have generally lost their distinctive and picturesque character, and become a mass of cramped forest trees, without lower branches; or shrubberies in which no individual plants can be seen; only a mass of uninterrupted surface leafage. Any one who will examine a country-seat, which was noted for its fine planting fifty years ago, will find that unless it was specially fortunate in having a skilled landscape-gardener for its owner, it has lost its landscape beauty, and has become more like a primeval forest with bits of neglected undergrowth.

With due deference to one's present fondness for ample planting, and to the general disposition not to sacrifice this year's beauty for next year's gain, I must say that, in my judgment, at least one-half of the problem in question might be solved by a rigorous and vigorous use of the hatchet and the axe. I believe, too, that if this were more judiciously done not only the future, but the present beauty of the whole region would be as much improved as would its healthfulness.

My examination was too slight for me to specify many details. This can be done only after a careful and minute examination of the whole area.

Whatever view we may take of the theories of different authorities on the subject, we reach always the same practical conclusion. Lancisi and all who succeeded him down to the time of MacCulloch attach prime importance to paludal influence. Dr. Mitchell entertained the opinion that the causative agency of malaria is a cryptogam whose best development takes place under conditions favorable to the growth of the commoner fungi. Colin believes that malaria is produced with greater or less intensity in proportion to the inherent fertility of the soil, this being prevented from exhausting its normal strength in the production of useful crops, in other words, that it is due to a misdirected energy of the soil. Nicholas adheres rather more closely to the marsh-miasm theory, but believes that the germ produced by marshes and other wet or moist lands may become detached from them, and may propagate itself in and be transported by floating mists. These represent substantially all of the theories that are accepted of one or another affection by those who have considered the subject. It is not necessary with a view to the elimination of malaria to determine whether one or the other, or more than one, of these theories are correct. They all lead to the practical conclusion, already stated, that the production and propagation of malaria are favored and apparently controlled by the presence of atmospheric and ground-moisture, and the conclusion is accepted by all that, in the reduction of the amount of the moisture, the power of production and propagation is destroyed or greatly lessened.

Drainage is the chief agent by which this is to be effected. As an accessory means to this end, much importance is to be attached to the prevention of aërial stagnation by the removal of undergrowth, shrubbery, etc., in order to facilitate a free sweep of currents of air over the surface of the ground.

There are large areas in different parts of the country where, without the presence of actual swamps, there are marked indications of the undue accumulation of water, and where these conditions seem to give rise to malarial influences. They exist in many cases where, for financial reasons, it would not be practicable to secure anything like a thorough drainage of the land. Frequently, hundreds of acres scattered here and there, and occupied by worthless forests or brush, and where other conditions prevent improvement for agricultural reasons alone, would require much less costly treatment.

There is no doubt that in a great number, perhaps in the majority of such cases, effective surface-drainage would secure a vast improvement. I have recently had occasion to recommend such treatment with reference to a large tract in Alabama, where there is so little difference of level that the flow of storm-water is not only retarded by slight elevations between low areas but is not carried away even where the fall is continuous, though slight and circuitous, because of the absence of a suitable channel of discharge. There is no outlying water-shed to accumulate storm-water in such volume as to erode a channel, only a general accumulation of the rainfall of the whole district in slight depressions scattered here and there over it. A study of the elevations of different parts of this tract shows that it would be easy and inexpensive to run a main ditch on a course traversing a large, continuous range of these depressions, adequate to the immediate removal of all storm-water reaching them; and to grade down, in the form of swales, outlets leading from isolated pockets to, or to the vicinity of, this ditch. The general rule adopted is to furnish free drainage-way from every part of the area at a depth of not less than one foot below the lowest part of each depression, and to give the main channel a fall of not less than five feet per mile.

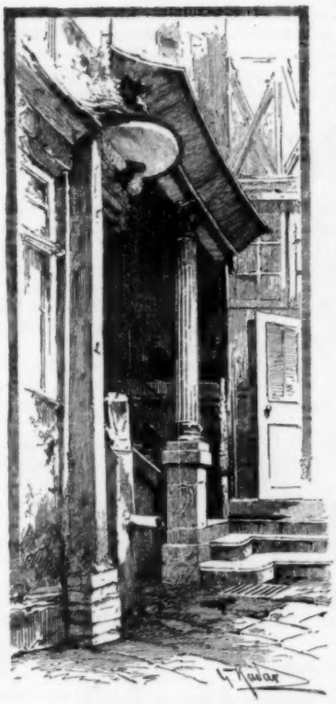
It is not necessary for the purpose now under consideration to make the channel so large as to secure the immediate removal of the water of heavy storms without overflowing the banks. The purpose is not to put the land in good condition for agricultural purposes, nor is there for the present end any objection to its being submerged for a short time. The point in view is simply to make sure that all storm-water falling on the whole district shall be steadily and surely removed, without lying at any point for a sufficient time to make it sodden or to change the character of its vegetation. As an accessory improvement, I have advised the clearing out of all bushes and the thinning out of wooded tracts, so that wherever possible free access may be given to sunlight and everywhere to the circulation of air.

The foregoing covers a rapid review of the various facts and theories connected with this subject so far as they are applicable to the present purpose. They all lead clearly to the conclusion that whatever other incidental or accessory conditions may influence the problem, the underlying factor, at least, in our climate is, in all cases, one which may be eliminated or rendered relatively unimportant by such improvement of the condition of the ground as can be effected by drainage, or, in some cases, by cutting off water by which the ground is saturated.

The required improvement is to be effected probably in all cases by carrying out precisely those methods of drainage which would be necessary for agricultural improvement. There is, therefore, no occasion to recite methods here, only to make reference to the previous chapter, and to other authorities on the subject of agricultural drainage.

GEORGE E. WARING, JR.

ROMANTICISM IN ART.



Staircase in the Rue Petit Salut, Rouen. From *Le Moniteur des Architectes.*

AT Messrs. Dowdeswell's gallery in New Bond Street there was recently shown a representative collection of the pictures of the great French painters who fought the battle against academicalism some fifty or sixty years ago. Called Romanticists rather because they belonged to the set of romantic poets — Hugo, de Musset, Gauthier and Berlioz — than for any particular appropriateness of the term to their own work, they were, in fact, realists, impressionists and naturalists. The movement was a revolution against conventionalism, a determination to take Nature as guide and paint her truthfully. There is beauty and charm of a high order, added to extraordinary poetic feeling, in the work of Claude le Lorrain and Gaspar Poussin; but it is not Nature as we all see her from day to day. Watteau, Oudry, Desportes and Chardin had all in their several styles been more or less naturalists; but their successors, the sentimental and weak Greuze, the over-Classic and cold Prud'hon (refined and graceful though some of his works are), the hard and stagey David, and, later on, the stiff, woodeny and intensely uninteresting Ingres, looked upon Nature with contempt. To paint what they saw was beneath the dignity of academical eyes. But a band of innovators appeared, headed by Delacroix, who determined to paint the true instead of the false, whether or no they suffered thereby. Suffer they did, for Delacroix, at the commencement of his life, had to concoct a frame with his own hands, being

too poor to buy one; Millet, later on, only just managed to keep himself going; and Diaz, Daubigny, Decamps and Rousseau were very poorly appreciated by their contemporaries. Even Corot was only admired in a sort of half-hearted fashion—Louis Napoléon being accredited with saying that perhaps Corot's effects were true, "but, for his part, he had never been out early enough in the morning to see Nature enveloped in these silvery mists." And now what is the fact? People are willing to give thousands for the smallest and most inferior work of any one of these masters. Grand were they as colorists, poets were they in feeling! but it is heartrending to walk round these galleries and see the mere sketches which are now valued at thousands of pounds, and reflect that, fifty years ago, masterpieces by the same men could be bought for a few hundred francs. The painters have gone into silence; they left the world with broken hearts, sore and wounded for want of a little sympathetic recognition from a blind and stupid public. Now that it is too late the public admires—and others profit. A picture by Rousseau, which was sold for 150 francs at a provincial exhibition during the painter's *jeunesse*, fetched in Paris, two years ago, 50,000 francs. And so it is all round. A thousand pounds is nothing for a Corot or a Troyon, and £20,000 is spoken of as a possible price for a Millet!

The exhibition at Messrs. Dowdeswell's included some fine Corots, a dozen or so of the still not-fully-appreciated Daubignys, and some examples by Troyon, Millet, Rousseau, Diaz, Dupré, Delacroix and Decamps; and, of the Dutch school, several by Israels, the three Maris, Mesdag and Mauve. It is a pity that some of Géricault's sketches could not have been added, and that Bonnington (much more French than English) could not have been represented, though we have had the opportunity of seeing the latter at the Grosvenor during the winter.

This collection must be a revelation to the mass of Londoners, for many of the painters are rarely seen here. Corot, with his silvery tones and feathery trees, his nymphs dancing on the green banks of the Seine at Neuilly and Asnières, is pretty familiar to most English people, but the beauty of Daubigny's gray river scenes (mostly the Seine and Marne), his golden sunset hues, his placid pools, are only known to those who are old enough to remember them *aux Salons d'autrefois*. Diaz is almost unknown—his marvellous coloring, his extraordinary versatility, being alike at home in landscape and the figure. But Diaz is somewhat of the conventional old master, as compared with Daubigny, Corot and Troyon. What a marvel, too, is the slightness of the work of these men. As a lady remarked, "They don't look finished!" But who wants "finish?" Is not a tree of Corot's the perfection of painting, although the leaves look as if they were blown onto the canvas by a gentle breeze?

Whether Millet is not as much overrated now as he was depreciated during his lifetime is a question. His sentiment is charming, but his drawing is often rude; and, even in the former quality, he does not approach that poet of sadness and poverty, Israels. One of the interiors in this exhibition might almost be a De Hooghe, while his "Boys' Swimming Boats" is an idyl of the sea-shore.

Amongst the Dutchmen, the landscapes of W. and I. Maris are charming in their realism; and, for those persons who can see poetry in pictures of cattle and sheep, there are the works of Mauve and Van Marcke.

The collection included two Meissoniers (another of the overrated artists, time will probably show) and a Gérôme—Frederick the Great playing his flute in mud-splashed boots, and surrounded by hounds and other properties in splendid disorder—a picture which must rejoice the hearts of the lovers of "finish" and "detail."

Montichelli is another of the unappreciated masters of color; but it may be questioned whether the Gérôme will not meet with many more admirers, even now, than the former's marvellous work.

Messrs. Dowdeswell deserve the thanks of all lovers of French art for bringing together this fine collection, and it is to be hoped that the fallacy that France has never had any first-rate landscapists may at last be exploded.

A propos of fallacies, I see that French *aquarellistes* will be represented at the International Exhibition, and I hope that English people—critics, as well as the public—will cease to affirm that "water-color is not understood in France." To my mind, *aquarelle* is far better understood in France and Holland than here; for it is pure water-color, not body-color, nor is the work niggled and stippled up. Let any one compare the work of some Dutchmen now on view at the Fine Art Society's galleries—Roeloss, Bosboom, Weissenbruch, Josselin de Ioug, Basterl and Tholen—with that of Paul Naftel in the same rooms, and I think he will agree with this statement.

S. Beale.

Still Wax for Building-Paper.—Resin, as used in building-paper, is being largely replaced by a petroleum product called "still wax," or "wax tailings." An important advantage in the use of this petroleum product, in connection with paper and fibrous substances, consists in its non-liability to oxidize, and thus produce spontaneous combustion. Moreover, it is said to toughen with age, instead of growing more brittle, like resin and coal-tar pitch. It is not more combustible than resin: it burns slowly, with a dull flame, producing immense quantities of lampblack of fine quality. It melts rapidly at 200° Fahrenheit, and in that state combines perfectly with resin, asphaltum and warm oil. Its use is, therefore, expected to increase largely.—*Manufacturer and Builder.*

The Illustrations

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

HOUSE OF GRANGE SARD, ESQ., ALBANY, N. Y. MR. H. H. RICHARDSON, ARCHITECT.

[Gelatine Print, issued only with the Imperial Edition.]

HOUSE FOR E. J. BARNEY, ESQ., DAYTON, O. MR. S. S. BEMAN, ARCHITECT, CHICAGO, ILL.

This house is built of red Portage stone.

ALTERATIONS TO BUILDING OF THE NEW YORK CLUB. MR. R. H. ROBERTSON AND MR. A. J. MANNING, ASSOCIATED ARCHITECTS, NEW YORK, N. Y.

BAPTIST CHURCH, MALDEN, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, BOSTON, MASS.

BUILDING FOR THE BERKELEY CO., BERKELEY, R. I. MESSRS. STONE, CARPENTER & WILLSON, ARCHITECTS, PROVIDENCE, R. I.

SPANISH SKETCHES.

IN THE BASQUE BORDER-LAND.

"Fair land! of chivalry the old domain,
Land of the vine and olive, lovely Spain!"

The Cathedral Front, St. Sebastian, Spain.

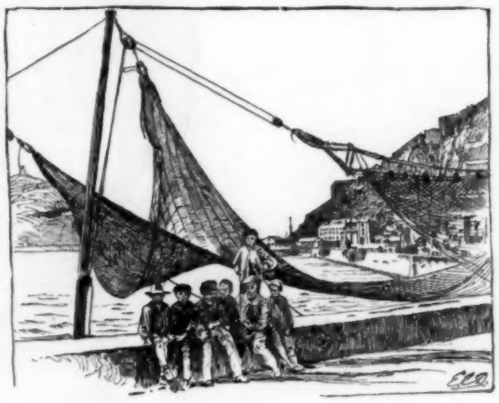
If one were obliged to give a reason for every journey, then one might stay at home. But surely, if one need an excuse for going anywhere, it may be found in Spain. Assuming this, let us journey thitherward, following the route of travel through England and France, and across the Pyrenees.

Fortunately, the progression of events in times past has coincided with the march of progress in times modern. That is, we may enter Spain by rail and still follow the line of conquest, or re-conquest, that gave Iberus to the Goths and Hispañia to the Castilians. Should it be preferred, however, to enter Spain with the Africans, who invaded the country in the early years of the eighth century, then we may take steamer, occasionally, for Gibralter and Malaga; or if we would explore with the Phœnicians, then at Cadiz, that city on the coast of Tarshish. The northern entrance is the more preferable, especially in the summer months, on account of many things hereinafter to be mentioned. The sea-service, of course, to Liverpool or Havre, is more regular and comfortable than to the ports farther south. Once in Paris, we find several routes open to the tourist, and even reasonable "excursion rates," to every important city of the Iberian peninsula.

We may go by rail to Marseilles, thence by steamer to Tunis or Algiers, skirting the north coast of Africa to Oran, whence to Carthagena, Malaga or Tangier (as the ticket may read), returning *via* Cadiz or Malaga, through Granada, Seville, Cordova, Toledo, Madrid; or, direct to Barcelona, Tarragona, Valencia and Southern Spain, to Madrid, etc., or *vice versâ*. Another route, and that I shall now follow, carries one from Paris to and through Bordeaux, Biarritz, and beyond this delightful resort, through a gap in the Pyrenees, to San Sebastian, Burgos and Madrid. I would not seek to deprive the subject of any of its charm of distance, either real or imaginary, nor to rudely tear away the veil of history, romance and poetry, that cast a glamour over its rugged features. But the truth is, Spain is no longer at a distance; it is many years since its capital

was united with the chief centres of Europe, by rail, though the travelling public has been slow to find it out. Yet, the iron-horse has not invaded the country in the ruthless manner that is his wont elsewhere. He has at no time shown a tendency to play the rôle of iconoclast, has destroyed no monuments, has not even soiled the cherished relics with his smoke. The jealous provision, that stipulated for a trans-Pyrenean track of different gauge, also provided that no locomotive should enter the precincts of a city. So it is, that the iron-steed pants at the portals, impotent, and glares at gates he cannot pass beyond. Once beyond the mountain-wall that divides France from Spain, we find a delightful halting-place at San Sebastian, a coigne of vantage whence we may sally out at leisure upon the richer fields of the South. So near the frontier as it is, its superficial character is French, as evidenced in the blocks of buildings along the boulevard, the hotels, on the French plan, and their servants, with French airs and mannerisms.

But it is an agreeable city, this Basque capital, clean and attractive, with a wide-awake air wholly its own, a brisk individuality, strikingly at variance with the somnolent habit of the cities beyond. As is well-known, doubtless, it lies in the centre of the country of the Basques, a people who have preserved the language, the customs and traditions of most ancient times. Their province is an unconquered one, left undisturbed by Vandals, Goths and Moors. Hence it is, the Basques are arrogant yet simple, brusque yet courteous, well-grounded in the belief that their country was the first created land, and their language, spoken by Adam in Paradise (Adam of Eden, you know), was brought here by Noah, or Tubal Cain, sole survival of the confusion of Babel. And do they not believe that Ararat was a peak of the Pyrenees, and their hill-tops were the first to emerge from the wild waste of waters? There is little a true Biscayan will not believe, provided it goes to swell the prestige of his ancestors. Primitive enough, this speech is, and it may have been, as certain

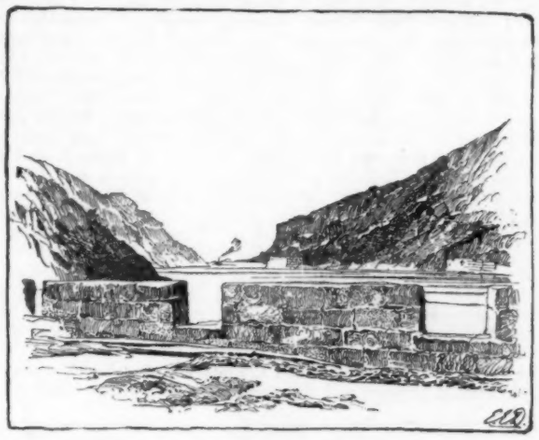


philologists claim, once the universal idiom of Spain. They will repeat with glee the statement of the Frenchman, that they cannot even understand each other, and that if they write, for instance, Solomon, they pronounce it Nebuchadnezzar. And finally, did not the arch enemy of man, *el Diablo*, wrestle with the language for seven years, and then give it up in despair?

Though the streets of San Sebastian are mainly broad and straight, yet there are narrow ones here and there, that wind tortuously up the hill and lead to nooks attractive. Such a one is that in front of the cathedral, which is buttressed by the older buildings of the city, and where the façade of the holy structure terminates the vista. Enter the cathedral, and you find it not much different from others grander, and not nearly so distinctive as the little church of Pasagés, a few miles distant. That, certainly, is Basque, in all its appointments. Besides the ordinary ecclesiastical furniture, which is scantily supplied, the floor is covered with low chairs or praying-stools, with arm-rest, and with little benches or crickets, wound round with coils of wax taper, fathoms in a coil apparently. These taper coils are placed above the tombs beneath the floor, and in front of portraits and images. Their ends sticking up, all over the floor, remind one of the heads of serpents, red and white, raised threateningly.

Pasagés, by the way, has a land-locked harbor, reached only by a narrow inlet, steep hills rise around it, and on their sides and on narrow shelves between them and the water, the town itself is built. It was formerly rich and royal, and many houses yet stand here with sculptured *escudos* or escutcheons, over their doorways. Ruined and decaying is this old city now, yet the harbor is as good as ever and as beautiful. From this harbor, tradition has it, sailed Lafayette, when he escaped from France, and came to America to offer his sword to our revolutionary ancestors. Journeying back to San Sebastian, we are beset by troops of children, all happy, apparently, and all playing seriously. In a nook under a cliff where a spring gushed forth, a crowd of *lavanderes*, of washerwomen were assembled, merrily mauling the clothes entrusted to their care, and entering with spirit into the fun of being photographed. For, my friend-of-a-day and myself carried cameras, and popped at everything picturesque by the wayside.

The chief attraction of San Sebastian is its beautiful bay, protected by castle-crowned hills, on the shore of which *La Concha*, "the shell," the wealthy and fashionable disport themselves the summer through. The Queen-regent, Christina, and the Spanish apology for a King, Alfonso XIII, even condescend to appear here and wet their royal limbs. The Queen, indeed, is a favorite here, because she is the mother of the King, and because of her own beaming presence. Above the town towers the principal fort, and a winding path leads away to it, with glimpses ever of bay and shore, green hills, white villas, harbored vessels, brown nets on white walls drying, and a glorious sweep of ocean out over the Bay of Biscay. The seaside slope is thickly strewn with graves, graves of English and French soldiers, who came here to fight over Spain, like two dogs over a bone, in the early years of this century. For this was



the last stand of the French, here at San Sebastian, before they were driven over the border, by the soldiers of Wellington, in 1813. A thankless task, that of the Iron Duke; though the Spaniards did reward him with an estate in Andalusia, which a degenerate descendant owns to-day. I fancy the English general would have had a different task, had Napoleon's hands not been so full elsewhere, and the best of his soldiers not engaged on other fields. As it was, the Duke played war for several years, with the tag-rag-and-bobtail of Napoleon's armies, throwing up earthworks like little hills all over Portugal and Spain, from which he would emerge at times, chastise a detached fragment of the French army, and then scamper back again to his intrenchments. But his policy won the victory in the end, though the final excesses of the Englishmen, drunk with wine and glory, were tenfold worse than the French occupation. After

the French had gone, even though they ravaged and ravished, Spain's wish sometimes seemed to be that they would return and deliver her from her deliverers. All are gone now; the sunken mounds and the mossy marbles on that hill sloping down to the sea remind us what fools there were in those days, who would spend thousands of lives and millions of treasure fighting for a country neither nation ever retained. The Spaniards, even now, speak of the French invasion and its barbarities with a shrug, but of the English deliverance with a grin. As we were engaged in focusing our cameras upon the tombstones, a herd of goats came up into the field of view, and one of them climbed upon a tomb and stood there, presenting an adornment not contemplated by the artist with satisfaction. Down the hill, also, came hurrying a soldier from the fort,

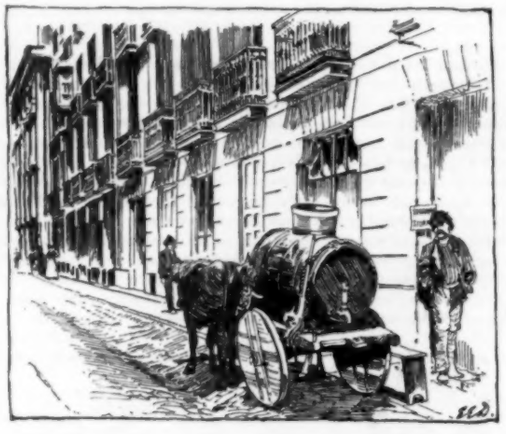
with positive orders for us to cease our efforts to secure photographs on that sacred spot. It was not out of regard for the defunct French and Britishers but for the law of Spain, that forbade the sketching of a frontier fortress.

It may not be amiss to remark, in this connection, that the Spaniards offer little opposition to the photographer. They are the most liberal of people; they have long since ceased to regard strangers with suspicion. Were this an account of the experiences of an amateur photographer, I might relate many adventures, for I consider myself one of the very first to take up photography as a pastime. Indeed, when I undertook to learn the art, that I might secures pictures of scenes not else obtainable, I was severely frowned upon, and the "artist" who acted the part of instructor charged me a good round sum for his teachings.

That was fifteen years ago, in 1874, and my first essay was in Florida, along the Indian River, and on Lake Okeechobee. It was the "wet process" that was in use at the time, and for a long while after; and wet it was on more than one occasion. I remember now as a nightmare the "dark tent" into which I had to crawl, on my hands and knees, after every exposure, and also to coat the plate, twice for each negative. It was made small, for convenience sake, and was hot and close, even to suffocation. It was a "wet" process, I said, as applied to the plate and the photographer, for the latter was bathed in perspiration every time he emerged into outer air. One of my experiences is indelibly stamped in memory, and for several weeks was indelibly stamped upon my person, and that was when, one day, in crawling out of my box, I upset the "silver bath" —a two-quart solution of nitrate of silver—into my lap. That I survived the terrors of that "dark tent" I attribute to a strong constitution and an overpowering love for adventure.

But to return to the subject of photographing and sketching in Spain. This interruption was the only one that occurred to me. I have carried my camera to churches, cathedrals, fairs and bull-fights, and have experienced no more difficulty than would arise from a good-natured curiosity.

In Cadiz, I even photographed the interior of a church while the people were at prayers, and the sacristan and chaplain aided me at



my work! I secured not only the picture I was after (a copy of the last painting of Murillo), but also the people kneeling in front of the altar. I did not consider it sacrilegious at all, for I did not understand the prayers, nor did the people understand what I was doing. It was with some anxiety that I prepared for photographing the bull-fight, for when the people's blood is up they will not allow any obstacle to their enjoyment of the gory scene. But, though greatly bothered by the crowding of the masses, and subject now and then to some good-natured criticism, I experienced no difficulty whatever. As a rule, the crowd at a bull-fight is gay and thoughtless. Even the stolid Britisher cannot irritate them, though his apparent indifference sometimes casts a gloom over the immediate vicinity of his person. But they resent nothing except an abridgment of the pleasures of the ring. They will insist upon the last horse as a sacrifice to *toro*, and the last, best hero of tauromachy in front of them.

To return to San Sebastian. The soldier who warned us away from the fortress had an air about him that seemed to invite a bribe, and I suggested to my companion that a *pesetta* well placed might secure us all the exposures we desired. But she thought otherwise, and, sooner than expose her to ridicule, I did not place any coin in the Spaniard's itching palm. That it did itch, and that he was disappointed in returning empty-handed, one might see by his dejected air. A short time after, I had curious confirmation of the correctness of my views in Paris. In a collection of views owned by a dealer there I found some fine ones of the very fort we were forbidden to photograph. I asked the dealer how it was he obtained permission, and he said that it cost him but twenty cents. He described the scene in all its details with the gusto of a Frenchman in his skill at *finesse:* "You see, Monsieur, the *soldat* he stand by me with hees hand behind him, so! and I steep up and drop a franc cento eet. Then the *soldat* he disappear ver suddang."

An artist, an architect, might wish to be informed of the possible material here in San Sebastian for a few days' study. I should think the Cathedral worth examining, and, at Pasagés, the quaint Basque church and the houses of the decayed nobility. For costume-sketches, the fairs and markets should be visited, and the amphitheatre where the Basque boys play that peculiar ball-game with basket-work bats—a game as popular there as base-ball is in America.

For scenery of a quiet kind, with rounded hills, curving shores, promontories fort-surmounted, and fields dotted with red-roofed farm-houses and villas, the whole bathed in soft light and delicious atmosphere, one may tarry awhile at San Sebastian. June seems to be the opening month of the bathing season, though earlier months are delightful for walks and rides.

This point is a good one for short excursions, but the railroad leads southward to other cities that are better situated as centres for extended exploration. You may, pehaps, reach the pass of Roncesvalles by hard staging, or turn westward along the shores of Biscay. In the hills, good trout-fishing is said to be found, and examples of what Spanish hills are like may be seen along the railroad through this province of Vascongadas on the way to Burgos.

Frederick A. Ober.

AUGUSTE RODIN.[1]—IX.

RODIN'S DRAWINGS.

Figure from the Door. Auguste Rodin, Sculptor.

ONLY by some reproduction of process printing can any adequate impression be obtained of Rodin's drawings. Nearly all are in water-color, or black-and-white, a few only being in pen-and-ink. All of them have a big sweep of line, a great arrangement of mass, and are very—yes, tremendously put together. A great master is seen in the expression of light-and-shade, and in the composition of planes. They are as rich as a mosaic of liquid precious stones, and as palpitating as flesh itself. If their authorship were not known they would be justly accepted as the work of a great old master. In those composed with landscape there is the same deep sentiment of appropriateness as shown in similar compositions by Barye, as well as an imposing vastness of sea and plain. Many of them are preliminary studies of the figures on the door, and embrace, in subject, the full round of love's ever-varying expression: all sculpturesque, and all vital with emotion. The almost imperceptibly rendered sketch of the "Sculptor's Dream," has as much personal significance as it is beautiful in idea. The sculptor musingly works, while the shadows of his cherished fancies silently assemble around him. It indicates Rodin's entire life, and illustrates his whole character. He has lived in dreams, and his works are the embodied forms thereof. He proposes to execute this design for his own tomb.

RODIN'S ART AND LITERARY FRIENDS.

On the occasion of Rodin's first exhibition of his work in public in an art collection, some busts in Brussels, he found one intelligent and appreciative admirer among the art writers of that city, and the same good fortune attended the "Age of Brass" when it was shown there in the early spring of 1877. An occasional complimentary allusion was made to this statue while it was in the Paris *Salon* of the same year, but it was not until 1880, three years after, when it appeared again, in bronze, in company with its immediate successor "St. John," that the Paris art writers began to realize that a new and powerful personality had come into the world of French art. Scores of them, since then, have written in his praise, and many became

[1] All rights reserved. Continued from page 251, No. 700.

his valiant personal friends. Justly due, as well to the genuine character of the man as to his merits as an artist.

Among these writers are Octave Mirbeau, G. d'Argenty, Edmond Bazire, S. de Fourcaud, Roger Marx, André Michel, and Marcel Fouquier.

L'Art was the first paper to defend Rodin against the accusation in regard to "The Age of Brass," in 1877. The principal illustrated papers of Paris have published engravings of his busts of Laurens, Hugo, Dalou, and St. John, with accompanying text.

His friends and admirers among the painters number such men as Jean Paul Laurens, Puvis de Chavannes, and Claude Monet; and among the sculptors, Jean Paul Aubé, Adrien Gaudez, and many others, especially of the younger generation.

The Englishmen who have written about Rodin are W. S. Henley, Claude Phillips, R. L. Stephenson and Cosmo Monkhouse. The *Magazine of Art* has given more attention to him than any other paper, though articles have appeared in *The Portfolio, Academy, Whitehall* and *Fortnightly Reviews, The Architect, Court and Society,* and the *St. James Gazette.* Cosmo Monkhouse writes that Henley was one of the first Englishmen to recognize the true merits of Rodin, and has done more than any other writer to make them known in England.

At first, some of the English writers were disposed to be a little cold, guarded and patronizing, even advising Rodin how to do better sculpture, and accusing him of being a reminiscence of Michael Angelo. Others have been, from the first, his warm admirers. In comparing the hundreds of articles by writers of both countries, the impression is made that the Englishman is more disposed to argue, compare and reason, while the Frenchman makes it a matter of personal pleasure to enjoy the manifestations of a new, fresh and stirring element in the art of his country.

All in all, no artist of modern times has been so generally discussed by tongue and pen as Rodin, and with reason, for none have brought such an amount of disturbing and vital baggage into the warehouse of modern art.

Among English art-lovers the sculptor counts many friends, who were the first to show their appreciation by buying his works. No less than ten duplicates, in bronze, of "The Broken Nose," as well as copies of some of his more important small figures, busts and groups, are owned in England, while not one copy of his great mask has been sold in France. [The first bronze duplicate of the bust of "St. John" sold in France was bought by Mr. George A. Lucas, a well-known American art-lover who lives in that city, and this as late as 1888, ten years after it was made.] The English appreciation of Rodin is due to a large extent to Alphonse Legros, one of the strongest of French artists, who has lived in England for twenty years, and is a professor of art in the Slade School. Some time in 1880–81, a mutual friend brought Legros to Rodin's studio, and the account of what was seen there was carried across the Channel, to the great personal, professional and pecuniary advantage of the sculptor. Visiting Legros soon after, Rodin made the acquaintance of Browning, Sir Frederick Leighton, Lord Lytton and many other eminent representatives of English art and literature. They were some of the buyers of his works. Since then he makes annual visits to the city on the Thames.

PORTRAITS OF RODIN.

Rodin himself has been the submissive subject of the artist's pencil. Beot, of Brussels, engraved him, Bastien-Lepage made a dry-point etching, Liphart a pen-and-ink drawing, and Haquette and Sargent painted him in oil. The latter's picture was exhibited in Petit's gallery, and made a great success. Laurens has painted Rodin twice: once for the latter, and the other for his great picture in the Panthéon, "The Death of St Genevieve."

SOME IMPRESSIONS OF RODIN'S IDEAS ON ART AND ART EDUCATION, AND ON THE CHARACTER OF HIS OWN MODELLING.

If the character of Rodin's sculpture is radically different from the majority of that produced at the present time, it is to be expected that his ideas on art and art education would also differ from those generally prevailing on those subjects. The almost-universally accepted belief, which began to spread soon after the French Revolution, and was indulged in by Canova, Thorwaldsen, and nearly all the painters and sculptors who succeeded them for a long time, David among them, that Greek sculpture is an ideal representation, and not a faithful reproduction of nature, finds in Rodin a decided opponent. He believes that Greek sculpture is the perfection of realism, nature simply and comprehensively copied by the strongest, healthiest and clearest eyes and hands; that the Greeks never conventionalized their models in the execution of their statues as most moderns do, nor slighted nor attenuated the details, but made them as large, in their scope and place, as they did the more extensive planes and masses.

He thinks that, following the teachings of the French School of Fine Arts, which are based on the Canovian idea, the pupils study nature to make it Greek, and copy the latter because they think it ideal. As a result, they make imitations of the Greek that are cold, conventional and weak, not representations of living sculpture. They, no doubt, wish to make sculpture that is large and simple in form, not by a deep study and respect of all there is in nature, but by eliminating too much that is important and characteristic. It may be what they understand as true Greek, but it is not true Greek.

Greek sculpture, Rodin asserts, is warm, strong, firm, simple, true to nature and full of power. It is life itself.

Another error of the French school which Rodin regards as objectionable is that known as working in bas-relief, or from only one side of the model, to get what is called "a fine line or profile." It is well understood that by constantly looking at a model from one side or from one point-of-view, the eyes of the pupil become so accustomed to looking in that way that he sees everything in bas-relief, and can neither see nor work in any other way. The result of this is that the pupil learns little or nothing of the full, round figure, finds it extremely difficult to make one, and still more difficult to compose two or more figures together; his work looks like a bas-relief — flat; the effect, not the fact, of a figure. Ingres is regarded as a great sinner in this respect. He made everything in bas-relief, was very fastidious about his outline, and neglected to put anything inside.

As a whole, Rodin thinks that the teaching of the School does not include a thorough comprehension of either nature or the Greek, and that its pupils are very imperfectly prepared for the execution of great works of art.

The future of French art appears to him to rest upon a return to a more faithful, serious and persevering study of nature, and he supports his opinion by referring to nature as the compendium of all the inspiration and principles of art, and to the experience and works of all the great artists of the world, as unanswerable illustrations of its truth. He says that the human form has its own peculiar atmosphere, which, if once entered into by the artist, reveals a world of charm and grandeur; that it is as endless in its variety of movement as it is unlimited in its beauty; that no imagination can begin to ask all that it can give, and that nothing is hidden by it, save from those who cannot see; that all science and all art is centred in the human form; that everything that is typical and harmonious should be faithfully copied by the artist, and, when so copied, is good and beautiful sculpture. Nature never deceives nor makes false pretensions. But it must be studied and copied with the inflexible determination of a religious devotee, even *servilely.* It must be seen with soul and eye.

Even if the Greeks were so strong that they could copy nature perfectly in all its depths and subtileties, there is no reason why, in Rodin's estimation, the principles upon which they worked should not form the basis of all art-instruction. He insists that the pupil should be taught what nature is, urged to copy it with the most scrupulous care, and to study his model in all its profiles, and then he will be able to make full, round figures, as well as bas-reliefs, one as well as the other. He refers to Delacroix as one of the first painters to get away from these false ideas of nature and the antique, and to succeed in arriving at a great and truthful power of expression. For the better understanding of true sculpture, Rude was able to do a great deal, and, though there is much that is cold and dry in the details of his great bas-relief on the Arc de Triomphe, its spirit is splendid and its planes are immense.

Carpeaux was the first sculptor of a later generation, though a graduate of the School, to emancipate himself from its teachings. He succeeded in putting life into his work, in composing several figures together, and in making fine and sculpturesque planes — so much so that minor defects are rarely noticed.

The best French sculptors agree with Rodin in regard to the imperfect teaching of the School, and are trying to escape the influence it had upon them, and some of them have succeeded.

Rodin is also of the opinion that the requirements for entering the School are not sufficiently stringent. There are those who affirm that "it is simply a mill that takes every one in and grinds them out as artists — and such artists!" They go so far in its condemnation that they are in favor of closing its doors, at least for a time, because, all in all, "it is a formidable enemy to true art progress."

The practice, in and out of the School, of working with "bullets" finds no favor with Rodin.

The sculptor, instead of putting on the clay with a sweep of his thumb or fingers, and thus indicating, with his every touch, the ever-important fact of planes, rolls it out into a little ball, and carefully places it where he desires with a slight pressure of his finger. A figure thus made looks like a mass of flattened bullets. This method of modelling is not regarded as indicating a true sensibility of form, but a way of hiding an incapacity for serious modelling. It is also affirmed that when such work is executed in marble it is lifeless, hard and without character, because it has no element in it that will produce sculpture.

The Greeks saw and felt this, and they were so strong that they could reproduce what they saw and felt, they could copy nature perfectly, they understood the human form to its very depths, and were in accord with its most intimate harmony. Nor is their art confined alone to gods, it is in everything they made, animals as well as men.

The Greeks suppressed nothing, because nothing was beneath its appropriate dignity and preservation. All there is in nature, is in their sculpture.

The imitation of nature, without feeling or comprehending this harmony and atmosphere, is not art.

And it is also true that all true criticism of art is based upon a knowledge and understanding of these truths, and not upon taste.

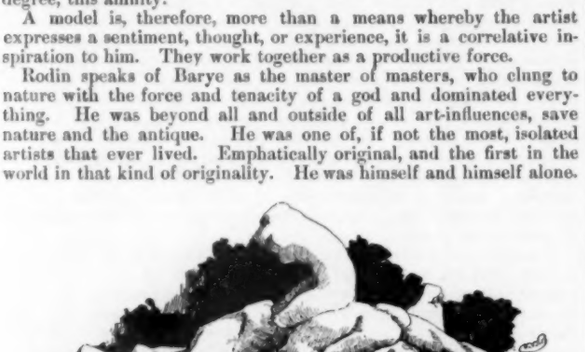
The affinity between the conceptive intuitions of the artist and the human form is as absolute as it is intimate, and as limitless as they are numberless.

A model may suggest, or awaken and bring to a conclusion, by a movement or position, a composition that lies dormant in the mind of the artist. And such composition may or may not represent a defined subject, yet be an agreeable and harmonious whole, suggesting to different minds as many names.

The physical and mental character of a model regulates, to a great degree, this affinity.

A model is, therefore, more than a means whereby the artist expresses a sentiment, thought, or experience, it is a correlative inspiration to him. They work together as a productive force.

Rodin speaks of Barye as the master of masters, who clung to nature with the force and tenacity of a god and dominated everything. He was beyond all and outside of all art-influences, save nature and the antique. He was one of, if not the most, isolated artists that ever lived. Emphatically original, and the first in the world in that kind of originality. He was himself and himself alone.



Figures from the Door. Auguste Rodin, Sculptor.

"One thinks of him and the Assyrians together, though it is not known that he knew anything about them. It is impossible to believe that he was affected by them, because everything that he did was Barye. He is too strong to be generally liked, even in France. Neither is he understood; he belongs to the centuries, and only after them will he be loved. He is our great glory, and we shall have to depend upon him in coming generations."

Rodin thinks that Rude should be placed next to Barye, and then Carpeaux. Puget also worked from nature and had a fine perfection of form.

The indescribable abnegation of such men as Barye, Millet, Rude, and Puget, is a consolation, as well as a sorrow to every true artist. They were heroes.

Donatello was also a student of nature, and how varied he is: more so than Ghiberti, Michael Angelo, or Signorelli.

Rodin says that the "St. George" of Donatello is all there is of Italian art, its sum and flower — an angel. The other statues on the Or' St. Michel, by this sculptor, are not so good. His equestrian statue, at Padua, is, in Rodin's estimation, the best one since the Greeks. All these leaders in Italian art were colossal, giants. Of Michael Angelo, no writer, says Rodin, has touched the hem of his garment, in the appreciation and understanding of his immense genius. He was right when he said that Ghiberti's door was fit to be the gate of Paradise.

Although the dominating tendency of Rodin's nature is Gothic, and his work would be classed in that style, more than in any other, he is, in his taste and admiration very cosmopolitan. Everything that is good sculpture, no matter what its style or date, gains his warm appreciation. If he loves the sculpture of the Parthénon the best of all, he is disposed to give to Assyrian sculpture the preference for grandeur of style and expression. Of individual specimens of Greek sculpture he prefers the Sleeping Fawn, Venus of Milo, and the recently discovered Greek Victory. Then follow the Ariadne, Venus of Vienne, the bronzes in the Naples Museum, the Marsyas, Dying Gladiator, and the Idol, at Florence.

He regards the statue of Demosthenes as a fine work, but not the best Greek. For the equestrian Marcus Aurelius, "there is no name." "One of the finest things in the world is the Mercury, by Brian," at the School of Fine Arts, in Paris. "It received the Medal of Honor in 1864, and it was the most deserved one ever given in Paris. The statue, as such, is nothing: but the work on it! Such force and beauty!"

This unfinished figure of a sitting Mercury, was found in the miserable attic-studio of the sculptor the day after his death. Brian died in poverty, and tradition has clothed the event with this touching story: Fearing that his clay model would freeze during the night, he covered it with his only blanket, and thus deprived his starved body of its own protection. His frozen corpse, witnessed in the morning this final sacrifice to art.

In urging the study of nature as the only guide and inspiration for the artist, Rodin gives in words the synonym of his own life-work. Nature has revealed to him her mysteries, and those of her sculptured counterpart, the antique. He feels the winning power of the former, and the truthfulness, life, simplicity, and never-changing youth of the latter.

But it was only at the age of thirty-five, and after eighteen years of the hardest study, that he was able to fully assert his instincts and trust implicitly to the teachings of nature.

It is a singular fact that while he was all this time struggling and progressing, he was unable to see anything in Barye, and accepted the popular dictum that Pradier and Ingres were veritable gods. All of his early work, the "Broken Nose" as an example, was in the right way of modelling, and without realizing its full significance, he was studying his full figures from all profiles, and learning to make full round statues.

It is easy to understand why nothing that Rodin did, from the time the "Broken Nose" was made, and during the seven years that he was working with Belleuse, should please his acquaintances; it was not the kind of sculpture then in vogue. It had too much nature in it and not enough of false Greek.

Rodin knew very well that he was doing a tremendous amount of study, and his only comfort was in the belief that he was, at least, a realist. His work did not please him, it looked small and lifeless. He labored in faith and darkness. Neither did the sculpture produced by others at that time give him any pleasure.

Constantly hearing his things condemned, and never attaining his ambition to do strong and powerful work, he began to think that he was not in the right way. But as he saw no better he kept on, following blindly his own feelings and working harder than ever. At last, he got hold of nature, his modelling had life in it, was more supple, it had freedom, freshness, and the authority of a well-founded faith.

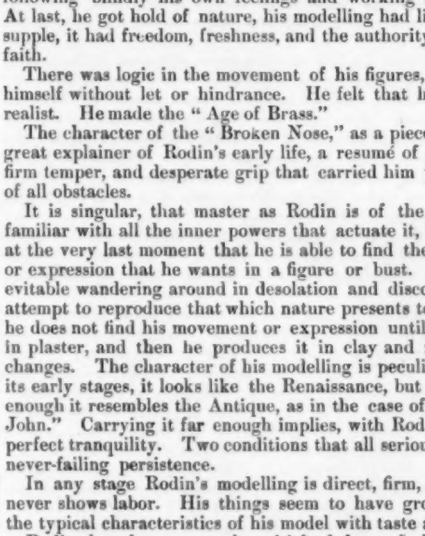
There was logic in the movement of his figures, and he expressed himself without let or hindrance. He felt that he was now a true realist. He made the "Age of Brass."

The character of the "Broken Nose," as a piece of sculpture, is a great explainer of Rodin's early life, a resumé of the superior tone, firm temper, and desperate grip that carried him to victory, in spite of all obstacles.

It is singular, that master as Rodin is of the human form, and familiar with all the inner powers that actuate it, it is almost always at the very last moment that he is able to find the exact movement or expression that he wants in a figure or bust. There is the inevitable wandering around in desolation and discouragement, in the attempt to reproduce that which nature presents to him. Sometimes he does not find his movement or expression until after the work is in plaster, and then he produces it in clay and makes the desired changes. The character of his modelling is peculiar. At first, or in its early stages, it looks like the Renaissance, but if he carries it far enough it resembles the Antique, as in the case of the torso of "St. John." Carrying it far enough implies, with Rodin, ample time and perfect tranquility. Two conditions that all serious artists seek with never-failing persistence.

In any stage Rodin's modelling is direct, firm, full, and living; it never shows labor. His things seem to have grown. He accents the typical characteristics of his model with taste and judgment.

Rodin has been severely criticised for a lack of taste in the selection, and a too faithful reproduction of his models, and for a too free representation of the divine passion of love. For "having a contempt, at one period of his career — when he made the 'St. John' — of the merely agreeable," and of choosing "To express his conceptions in forms expressive rather than in themselves beautiful, by means of gestures and attitudes passionate and significant, rather than attuned to rhythmical harmony." The "St. John" has been pronounced a low physical and mental type, too low to fitly represent the great precursor. Its back, head, and feet, have been pointed out as confirming evidence of the truthfulness of this criticism.



Figures from the Door. Auguste Rodin, Sculptor.

The "poetic realism," and "the nobility of the statue," have rarely been questioned.

To the ordinary observer it would seem that these objectionable parts help to make the statue and help to produce the impression of "nobility" and "poetic realism."

As a comparative allusion to the Renaissance leader, it was affirmed that Donatello, Rodin's "great prototype, even when he accentuated to the verge of exaggeration, and sometimes beyond that limit, the æsthetic type in similar delineations, never deprived it wholly of its nobler physical characteristics."

It has been said that no such perfect models, as those seen in the sculpture of Donatello and Michael Angelo, have ever existed, and that one of the unrivalled excellencies of these sculptors, consisted in their power to perfect, in their statues, the imperfect living model. The probabilities are that Rodin never thought or cared whether his model for the "St. John" represented the highest type, or whether the

head, back, or feet were those of a saint or sinner. The model appeared good to the sculptor, and was copied. For that time and purpose it suited the sentiment it suggested.

Rodin especially liked the peculiar type of his model, its general construction, and its back.

Both model and statue represent a rude, earnest man of the people, in movement and attitude natural, primitive and unstudied, very true and very forceful.

As models go, the one used for "The Age of Brass" would be considered an excellent specimen of a young man. Some of the female figures on the door would escape the criticisms made against the "St. John," and be regarded as beautiful enough to satisfy the most fastidious definition of that elastically-defined adjective.

The origin of the "St. John" is interesting as an illustration of the simplicity of the workings of the artist's mind on this occasion. When the model had taken off his garments, he assumed of himself a position natural to him. This position suggested to the sculptor the subject of "St. John"; he emphasized it and made the statue. The origin of "The Age of Brass," though somewhat different, was quite as simple. The sole idea in the sculptor's mind was to make a study of the nude, a good figure, correct in design, concise in style, and firm in modelling — to make a good piece of sculpture. For the sake of elucidation, the process of the origin may be sketched as follows: The necessity of artistic action moves the artist into contact with nature, its recognized inspirer, and he places his model in various positions, in keeping with its character, until he finds one that is harmonious in every way. In this instance the question of subject is not included. The position, movement, attitude of the model, as found by the artist, is satisfactory to him, and he makes the statue. After it is completed it suggests various names and subjects to those who see it, though it is really nothing more nor less than a piece of sculpture — an expression of the sculptor's sense of understanding of the character of his model, and of his capacity to reproduce it in clay.

Whatever place this process may occupy in the consideration of art-production, one thing is, at least, certain: the existence of a charming figure, from every view mysterious, and from its left side dramatic.

In the execution of these two statues, Nature was the guide of the sculptor.

If the statue of "St. John" did not have an immediate success, the model from which it was made became at once in great demand; but, not being understood and used in accordance with his physical and mental make-up, the statues that were made from him were not in the highest degree successful. He was placed in attitudes out of harmony with himself. Modern statues of "St. John" have been nearly always represented as boys or youths. Rodin makes his from a man of middle age, in order to more emphatically enforce the purpose of the subject: a personality who approaches his hearers authoritatively, and in his function their superior.

Before leaving the "St. John" and "The Age of Brass," an allusion may be made to the places they occupy as curious coincidences in connection with their history, character and sentiment. The latter stands in a retired corner of the Luxembourg Garden, in the centre of a large grass-plot, so that, obeying the accustomed warning provided for the protection of the green carpet, the curious visitor and the admiring art-lover are prevented from any near appreciation of its beauties.

The "St. John" does not stand, like a wall-flower, in solemn processional contiguity with its scores of sainted and mythological brethren and sisters, but is planted in the very middle of one of the two aisles that divide the hall of sculpture of the Luxembourg Museum.

The fault of a too free representation of the passion of love was first found at the time of the exhibition at Petit's galleries of some groups and sketches of the figures made for the door, and again referred to by some English artists who visited Rodin's studio. The pleasing terms used to designate these works were "vulgar," "indecent," "illogical," "exaggerated effects." Private criticism has denominated their author as "crazy" and a "fool."

Such tiresomely inevitable, but legitimate, condemnation seems to be the certain greeting given, by a portion of the world, to every free and rich-giving contributor of germinal productions. Fortunately, in France, there is no punishment attached to it. The sculptor may here make his representations of love's manifold expressions, the chastity of passion, and its amorous tone and glow without fear, and in undisturbed confidence that he will find his due audience, without waiting for the "sane serenities of futurity."

It is certain that the early Puritans would have burned Rodin at the stake, and not less certain that some of the later ones, if in years to come they should look upon the door, will be tempted to clothe many of its figures and groups with a more material veil than that evolved from the brain of one of the sweetest, purest and most delicate souls that ever touched clay into loveliness and grace.

With everything that is fine Rodin goes to extremes, being an excellent example of what was never said with a finer understanding than by William Blake, that "Safety is always in extremes." The faults of men like Rodin are degrees of perfection.

Rodin looks at and loves the human form in something the same way that he does trees. A crooked, gnarled or even eccentric one, if it has character, gains his regard just as much as the one that is straight and regular.

It is generally understood, and with reason, that Rodin was a pupil of Barye and Belleuse, because it is so stated in the *Salon* catalogues. The truth is that he has had no master, and owes nothing, professionally, to any one.

When Courbet sent his first picture to the *Salon*, he wrote on the card that went with it, "Pupil of Nature," but the authorities would not accept this designation, as it is an inexorable rule of that organization that the French *exposant* shall be the pupil of some master. When Rodin sent "The Age of Brass," in 1877, he was obliged to give the name of some one, so he put down those of Barye and Belleuse: of the first because he had attended the classes of that sculptor at the Jardin des Plantes, though gaining nothing thereby, and of the latter as a matter of politeness.

Like all young French sculptors, Rodin tried time and again to make something that would *sell*, in order to lighten the load he was carrying of poverty and low wages, but, to his bitter sorrow, he could not succeed. Now he thinks that he was fortunate in escaping that much-desired success, because he has observed that that kind of success is a hindrance, rather than an assistance, to the exacting and progressive necessities of true art-development, and he fears that it would have impeded his progress.

As a general rule, Rodin does not look with favor upon early art-success, because, he thinks, it is likely to hurt the young artist by over-stimulating his pride, lessening his sensibility and love for thorough work, and leading him into a superficial style of working. To him, the safest and surest way for a young artist is hard, quiet work, with no hurry to win popular favor, especially by exhibiting at the *Salon*.

T. H. BARTLETT.

[To be concluded.]

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

POINTING FOR CONCORD GRANITE.

ST. LOUIS, MO., May 20, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — What composition would you recommend for pointing a monument of Concord Granite.

Want something about the color of the stone and durable.

Portland cement is said to be inadmissable on account of its staining the stone.

Yours respectfully, MONUMENT.

[WE doubt whether Portland cement, mixed with just water enough to make it as damp as fresh loam, and thoroughly compacted with a calking-iron, or the jointer forcibly applied, would stain the stone, and it is by far the best material for the purpose. Cement mixed with oil, which is often used, would stain the stone and is not so good as when mixed with water. Keene's cement, Parian cement, and Selenitic cement, which can be obtained of importers, are nearly white, but are not very durable when exposed in our climate. — EDS. AMERICAN ARCHITECT.]

HEMLOCK AND RATS.

NEW YORK, N. Y., May 28, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — In your issue of May 25, on page 242, you write about using hemlock lumber for grain-bins, as being proof against the gnawing of rats. Several years ago I had hemlock grain-bins placed in my stable, and in a short time the rats had gnawed several holes through the hemlock boards; and they have given me trouble ever since, till I have had to have recourse to tin. I would recommend every one wishing rat-proof grain-bins or other receptacles to line them with tin or galvanized-iron.

Yours truly,
H. L. HARRIS, *Architect.*

PROVIDENCE, R. I., May 28, 1889.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — In reply to your request for information as to whether hemlock is proof against rats, I have the following experience to offer:

Some years ago I had a cement floor laid in a building containing an incubator and a brooder. The cement did not set properly, and the rats, burrowing through it, carried off the chickens.

I had heard that hemlock would poison the thieves, and accordingly I laid a close-jointed floor of that wood over the cement. The day after, I found a hole three inches in diameter gnawed upward through the wood at one of the joints. As fast as one hole was stopped another was made.

HARRY A. CHILDS.

NOTES AND CLIPPINGS

THE FORESTS OF GUATEMALA. — A consular report says the timber of Guatemala is abundant. There are forests of mahogany and pine, and a great variety of other woods capable of being used for manu-

facturing purposes. The balsam tree grows wild, mahogany exists in large quantity, and thus far cutting has been confined to the banks of streams, where by means of floods logs can be rafted to ports for shipment. The report goes on to say: Only a small quantity of this timber goes to the United States. The great difference in rules of measurement (8 per cent against about 30 per cent reduction on gross measurement) gives preference to the markets of Europe. The prices of merchantable lumber in this market are as follows: Pine at the mills is sold at 4 1-2 cents a foot; cedar, 5 1-2 cents; mahogany, 6 1-2 cents. Oak is sold by the piece, of various dimensions. It is hewed by the Indians with their machates, and brought to market on their backs. The sizes are usually from three to five feet in length and two to four inches in thickness. There is no fixed price, but a piece of oak four feet long, two inches thick and four or five inches wide costs about 62 1-2 cents. The measurements given are Spanish, on the basis of the vara (two feet nine inches to the yard), and the price in Guatemalan currency, which is about 70 cents on the dollar in United States gold. — *Northwestern Lumberman.*

The Forests of Alaska. — It is a mistake to suppose that the whole of that territory is heavily timbered, a good deal of it being as destitute of timber as the desert of Sahara. There are nowhere any trees or vegetation, except moss, above an altitude of 3,000 feet, the tree growth above 2,500 feet being of not much account. When it is considered how much of the country consists of lofty mountains, the area of timbered land becomes, under these conditions, somewhat restricted. The above remark applies of course, only to that portion of the territory that has been explored, a comparatively small part of the whole. What of the timber or other resources there may be in sections remote from the coast no one knows. In the far North, where the country is believed to be less mountainous, there may be, and very likely are, extensive forests, as is the case on the Eastern continent. The most common tree in Alaska is the Sitka spruce; the most valuable, the yellow cedar. Both these trees grow to a large size, some of them reaching a height of 250 feet, with a diameter of six feet near the ground. Generally they are about 150 feet high and measure four feet through at the butt. The Sitka spruce makes a good coarse lumber, much like the spruce and fir of California. The yellow cedar is, however, a much more valuable tree, having a close, fine grain, and being remarkable for its strength and durability. It is also very fragrant, and taking readily a fine polish becomes a most desirable cabinet wood. Hemlock is also quite a common tree in Alaska, with willow and alder along the water-courses. The bark of the hemlock will some day become valuable for tanning purposes. In intimating that the forests of Alaska are in some sense restricted, compared with the extent of that territory, is not to say that they will ever suffer extinction. Centuries hence, when the forests farther south have all disappeared, the coming generations will be able to draw their supplies from this vast timber preserve, which, with its power of reproduction and its immunity from the ravages of fire, will prove practically inexhaustible. Owing to the moisture of the climate and the thick coat of moss that everywhere covers the ground, it is impossible for a conflagration to occur in the forests of Alaska. — *San Francisco Wood and Iron.*

The Waste in Smoke. — The weight of the smoke cloud which daily hangs over London has been estimated by Prof. Chandler Roberts, says the *Engineering Times*, to amount to about 50 tons of solid carbon and 250 tons of carbon in the form of hydro-carbon and carbonic-oxide gases. Calculated from the actual result of tests made by the Smoke Abatement Committee, the value of coal wasted in smoke from domestic grates amounts, upon the annual consumption of 5,000,000 of people, to £2,250,500. The cost of cartage on this wasted coal is calculated to be £268,750, while the unnecessary passage of about 1,500,000 horses through the streets in drawing it, adds seriously to the cost of street cleaning and repairing. Then there is the cost of taking away the extra ashes, £43,000 per year. Summing it all up, the direct and indirect cost of waste coal may be set down at £2,600,000, plus the additional loss from the damage done to property caused by the smoky atmosphere, estimated by Mr. Chadwick at £2,000,000, the whole aggregating, £4,600,000.

The Recession of Niagara. — In a recent address in Washington before the United States Geological Survey, Professor Gilbert gave the following interesting information regarding the recession of the ground under Niagara Falls: The estimate is that for the past forty-four years the falls have receded at the rate of two and four-tenths feet in a year. The Horseshoe Falls are at the head of the gorge, and the American Falls at the eastern side, but the time was when both were together, before the little point called Goat Island was reached. The recession is more rapid at the centre than on the sides; as the crest of the Horseshoe Falls retreats the water tends to concentrate there, and the time will probably come when the sides of the present falls will have become dry shores. The gorge is known to be 35,500 feet long. A calculation has shown that on this basis the falls began to wear away the rock of the escarpment near Lewiston — which had not then taken out a city charter — about 7,900 years ago, plus or minus certain items which may affect the rate of recession. The limestone is not worn; it is not ground off by rocks or débris in the water which comes to the falls from the clear depths of Lake Erie. The process is brought about by the undermining of the shale, which seems to disintegrate and suddenly crumble. Frequently great masses break loose and fall over the brink, thus changing the character of the fall. A deep basin of an unknown depth has been scoured out at the foot, probably by means of ice, which comes over the falls in great quantities in the winter. — *Exchange.*

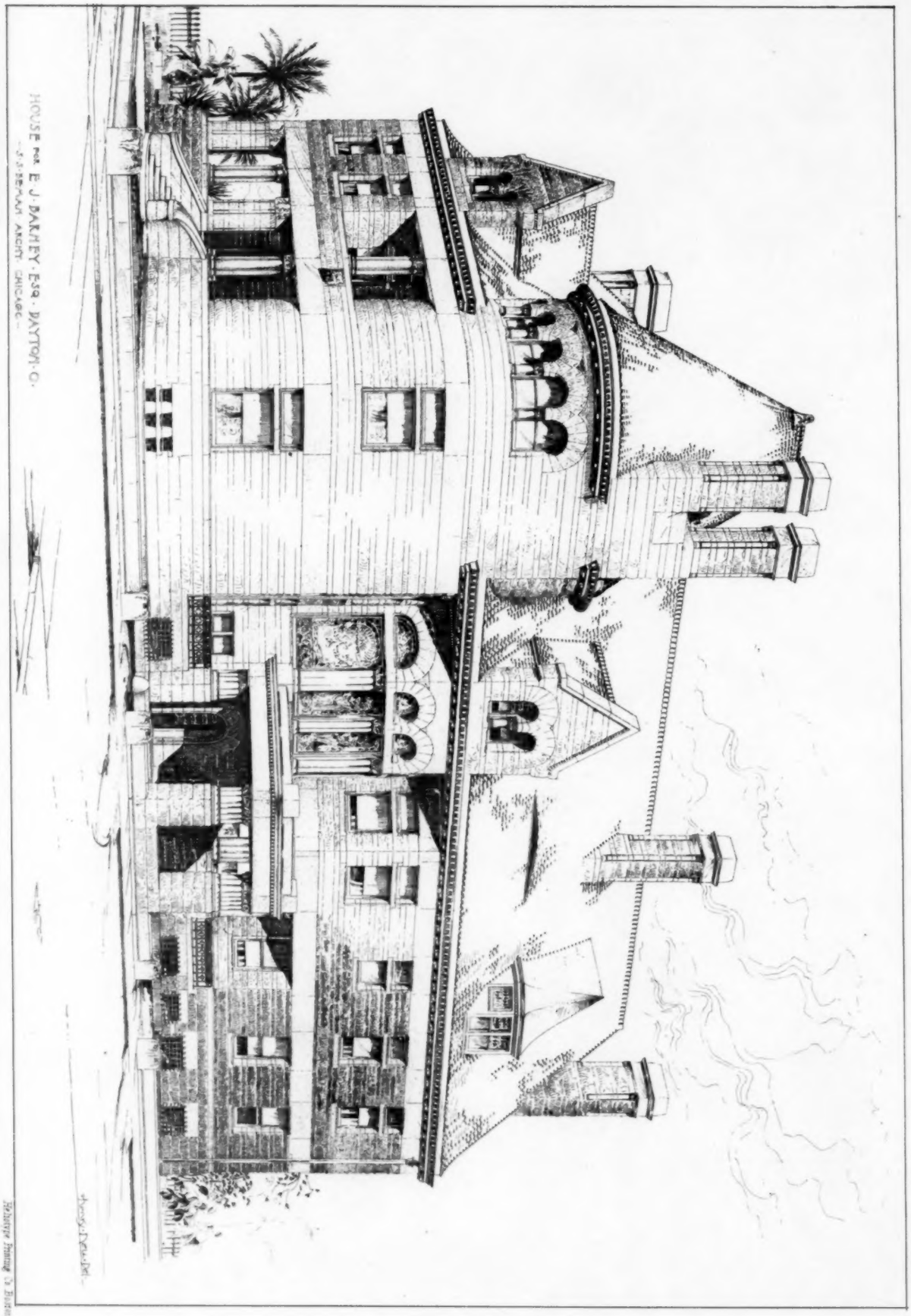
TRADE SURVEYS

The erection of defensive fortifications, and the construction of war-vessels for offensive and defensive purposes, are engaging unusual attention of the directors of the governments of Europe and America, or most of them. The details of these preparations would make interesting and suggestive reading. The occasion for such extraordinary activity may not be clear to the ordinary mind, but it is, at least, suggestive of the possibilities of serious international complications. To the outsider, the peoples and nations of the world seem to be at peace. Industry and the creation of wealth are absorbing all the energies. Wealth is more general and more easily gathered than in past times. People can move from place to place and from country to country more readily and at small cost. Individuality is asserting itself, and personal liberty is becoming a more valued prize to the great masses of the people. Governments are gradually becoming more and more the reflection of the popular wishes. Wars and armed conflicts of all kinds are becoming more dangerous to their instigators. The people are more disinclined than they ever were to increase the enormous load of indebtedness that wars create. The age of warlike conquest has passed, and that of peaceable colonization has set in. It must be evident to the most cursory observer that an equalization of population is in progress that will lessen the evils resulting in many European countries from overcrowding, and increase the aggregate wealth and productiveness of many new countries into which population is crowding for relief. Then why, it may be asked, are all the governments vieing with each other in the size of guns and the power and speed of war-vessels, great and small, and in the strength and extent of defensive fortifications? The instincts of the people are against such expenditures and against the policy their construction and maintenance contemplates, or, at least, suggests. Inconsequential South American States have within the past few months placed orders in French foundries and ship-yards for vessels and ordnance that would make it appear they feared an attack from all the outside world. Italy is having a ship-yard and a war-material establishment built by Krupp that in some respects will rival Krupp's own works. That government, it is well-known, has some of the most powerful war-vessels ever built in its service. Its engineers are to-day perfecting plans for vessels and defences that make it appear all Europe is meditating an attack on that people. The Spanish Government is about selling vast tracts of forest-land to borrow money to be expended in some such way. France is animated with a similar spirit, and her ship-yards are crowded with work for domestic and foreign use. Germany is forging war material as never before, and Great Britain proposes to expend some scores of millions on vessels, guns and defences, as though the Dorking campaign had almost set in. Belgium has a line of earth-forts costing half a million each, intended to be destructive to any hostile fleet coming within range of their guns, that are hidden from sight. Colonial dependencies throughout the world are being hedged about with all possible precautions to repel attack, and in America the same spirit is manifest. This week, Secretary of the Navy Tracy, advertises for three more cruisers, and the ship-yards on both coasts are now crowded with government work on war-vessels. Our engineers are brimful of schemes of warlike defence for the ocean fronts, the Gulf coast and the Canadian border; and when all these schemes are executed, if they ever are, fifty millions of dollars, at least, will have disappeared in that direction. These movements and measures stand out in strange contrast with the pulpit and platform declarations of a coming brotherhood of man.

Not for years have British and European workshops been as busy as at this time in making war material, and material to assist in the outflow of peoples from overcrowded centres. Possibly these preparations would have been made long ago had steel and iron been as cheap as at present. Possibly the deep popular discontent over social and economic conditions has much to do with these enormous outlays in European countries. Recent discussions on the subject of "Fortifications and Fleets," at the United Service Institution in England, throw much light upon the whole question, and show how little has yet been accomplished in the direction of actual protection against enemies. Here, in the United States, we are practically at the mercy of enemies, if the conclusions as to England's defenses are correct. The conclusion reached by English naval and military authorities is that no land defenses can avail against a hostile fleet, and that the only safety for Great Britain lies in maintaining supremacy on the seas, so that no hostile fleet can ever reach her shores. If this is a correct conclusion, where does it place the United States with its many thousand miles of practically unguarded coast. The belief is strongly entertained that the long distance from sources of hostile attack will save us, but war vessels and torpedo vessels are as efficient on one side of the Atlantic as the other. Be the occasion for extraordinary expenditure what it may be, the fact is that for years to come the nations of the world will build and build and improve and improve their ordnance and firearms until war will become too dangerous to play at. The demands created by our own Government have, within a short time, stimulated enterprise to such an extent that our shops are able to turn out material of the heaviest kind, and of the highest requirements. Whether such governmental policies are warranted by the present conditions, it is hardly worth while to consider. The facts are: we are on the eve of a great expansion in the demand for war material, and American iron and steel makers seems to fully understand it. At this time companies have plans completed to expend between three and four million dollars in plants, wherein the heaviest ordnance and material can be supplied. Already the facilities that have been established are such as to reflect the highest credit on our iron-makers. The scarcity of steel-making ores in Spain is leading to investigations as to the availability of ores in other localities. Large deposits that can be used as acceptable substitutes are to be had in Sweden and Canada, and it is believed that splendid deposits of hematite ores are to be had in other parts of the world. The basic process, by which native phosphorous ores can be utilized is being more largely used in France, Germany and Belgium. This process will probably soon be introduced into the United States when the present patents on the Bessemer process expire. The cost of iron and steel products, particularly those steel products made by the improved processes, will be considerably reduced. The reduction in cost is attended by a corresponding expansion of demand, as iron trade statistics for ten years show. Temporary depressions may restrict production, but the general tendencies are working in the direction of an annual expansion. The requirements of governments for the next few years, and the requirements of railroad-builders and bridge-builders will help to widen the markets for iron and steel throughout the world. The fears of those who apprehend that the demands for those products have reached their limits for a few years are childish. The industry is in its infancy. Builders have ordered fully 50 per cent more this year for structures than last, and railroad managers are tearing out wooden structures constantly for iron and steel work. Until all nations are at peace, and standing armies disbanded, the makers of steel need not fear any decadence in demand for war material. The outlays will necessarily increase until each nation feels itself as safe as the inhabitants of ancient walled-towns felt when their walls were completed.

S. J. Parkhill & Co., Printers, Boston.

COPYRIGHT 1889 BY TICKNOR & Co



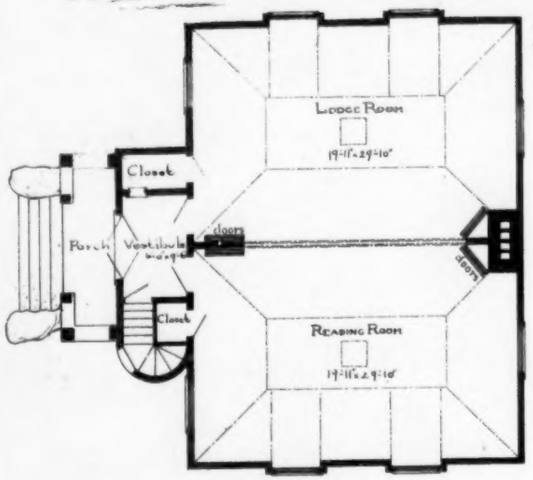
American Architect and Building News, June 1 1889. No. 701

COPYRIGHT 1889 BY TICKNOR & CO.

Building at Berkeley. R.I.

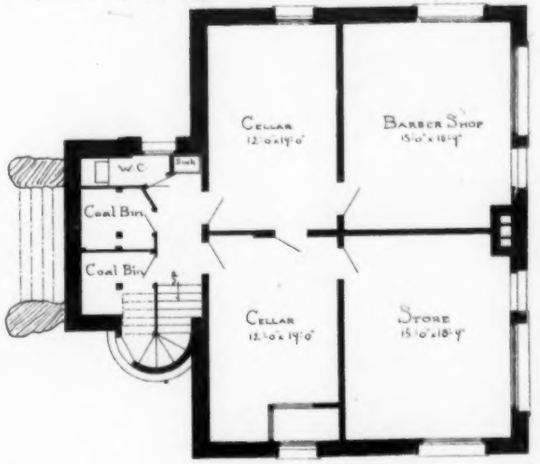
for the Berkeley. Co.

Stone. Carpenter & Wilson. Architects. Providence R.I.



First Story Plan

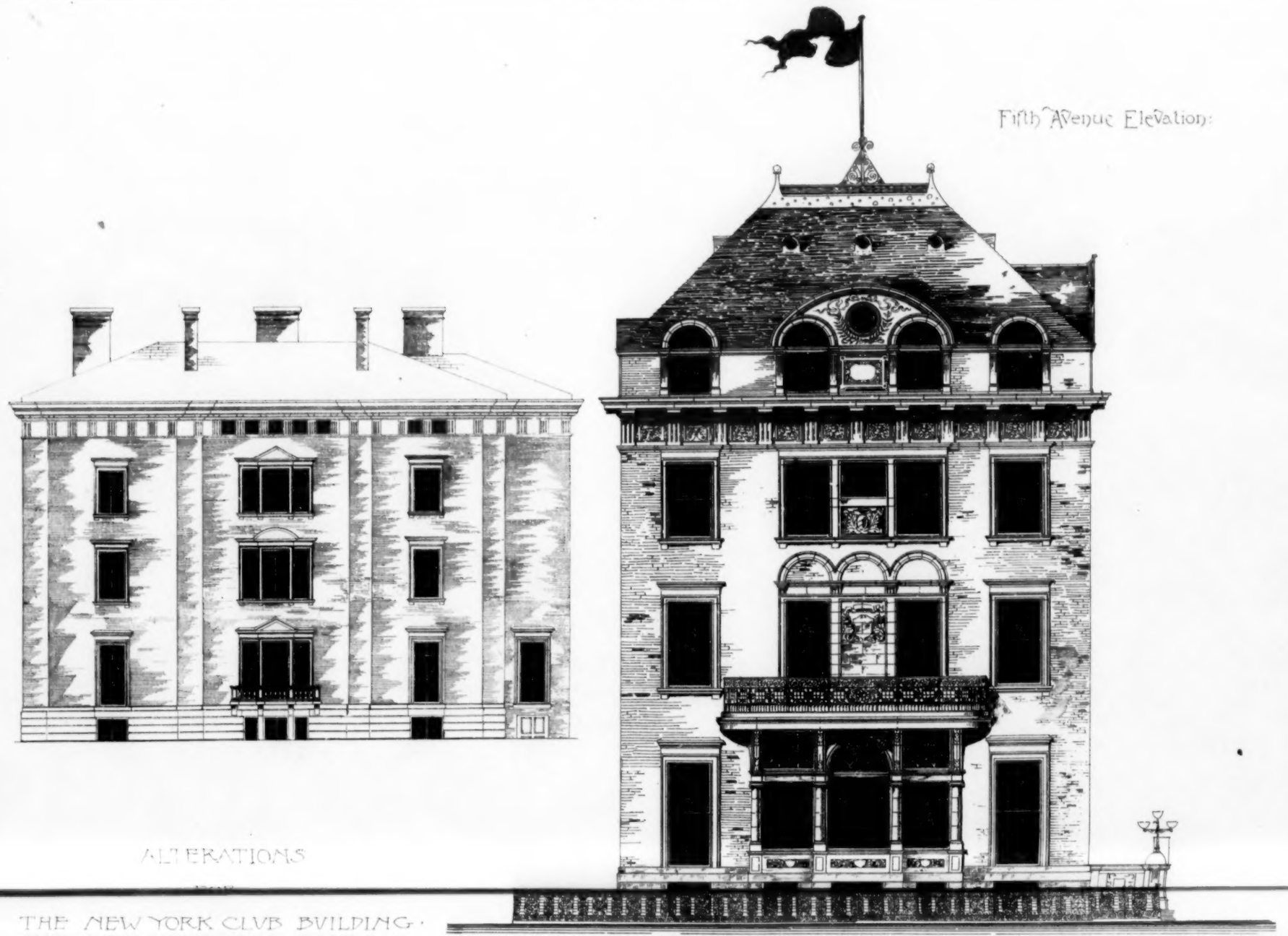
Section



Basement Plan

Heliotype Printing Co. Boston.

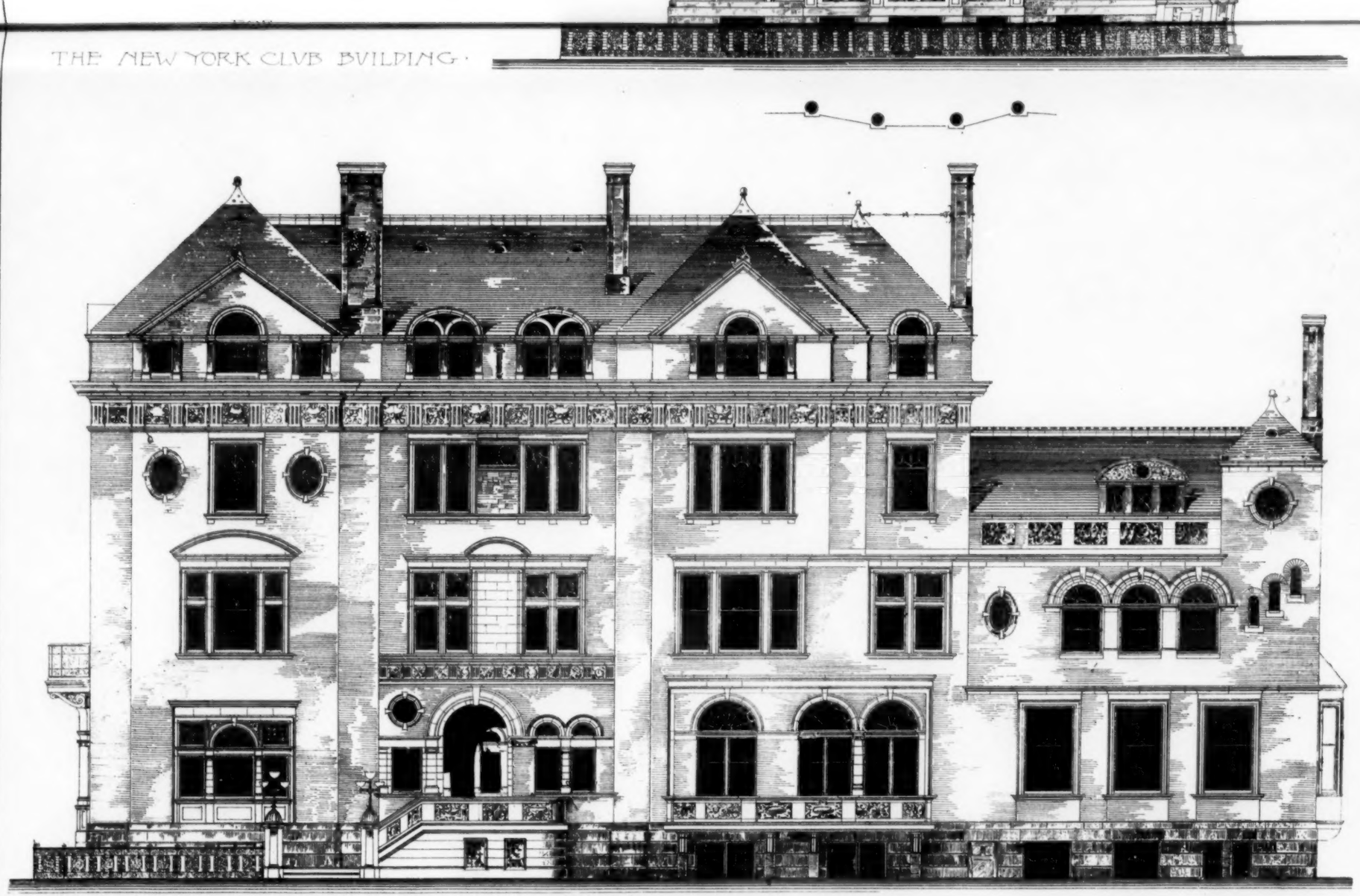
COPYRIGHT 1889 BY TICKNOR & CO.



ALTERATIONS

THE NEW YORK CLUB BUILDING.

THE NEW YORK CLUB BUILDING.



35th Street Elevation.

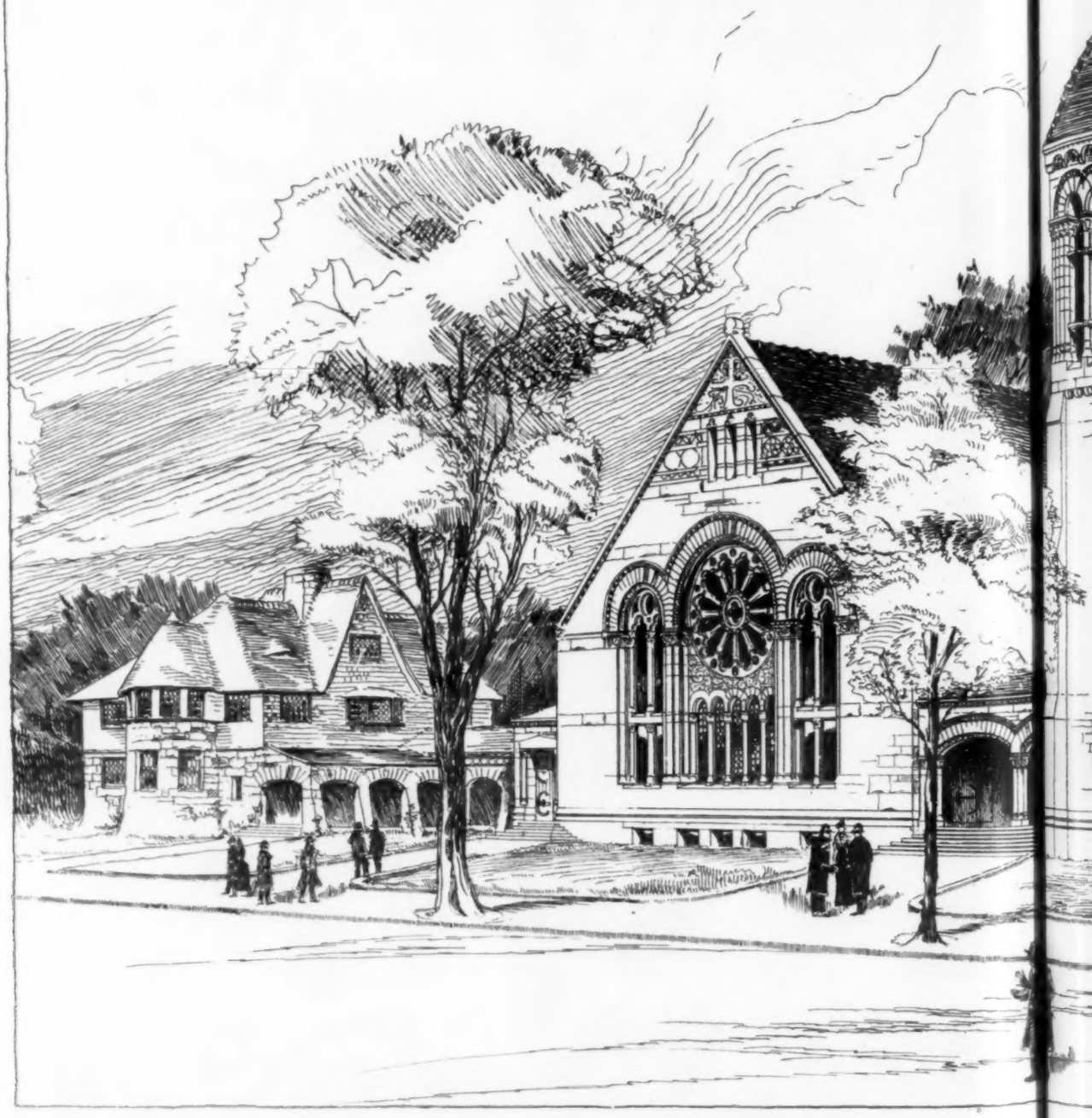
R.H. Robertson, A.J. Manning, Associated Architects.

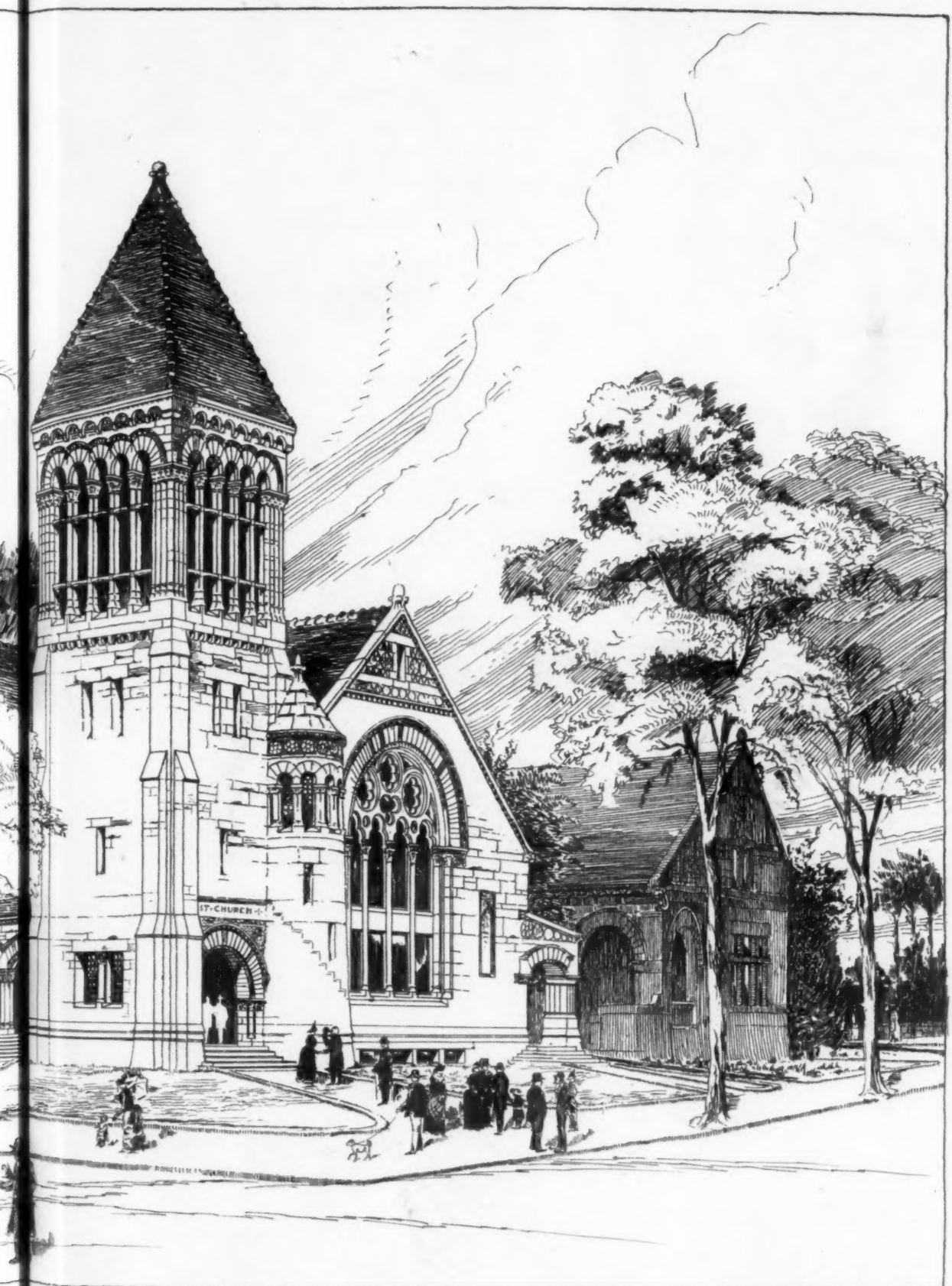
Heliotype Printing Co. Boston.

COPYRIGHT, 1889, BY ...

SKETCH FOR NEW BAPTIST CHURCH AT MALDEN MASS

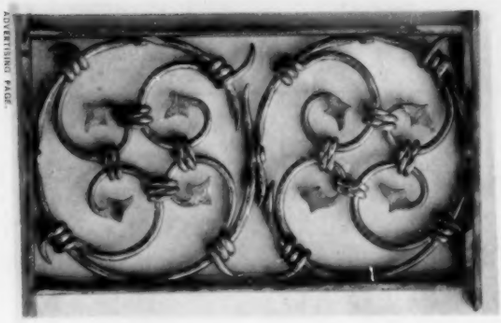
SHEPLEY RUTAN & COOLIDGE ARCHITECTS

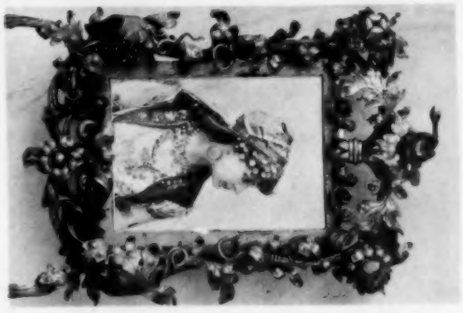


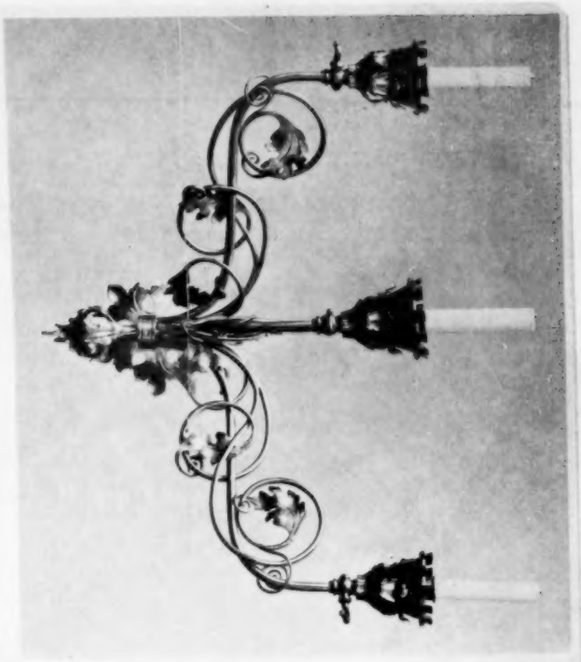


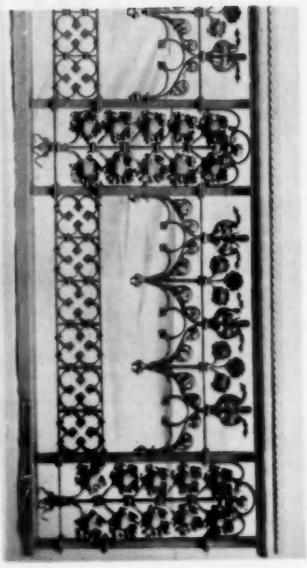
Heliotype Printing Co. Boston

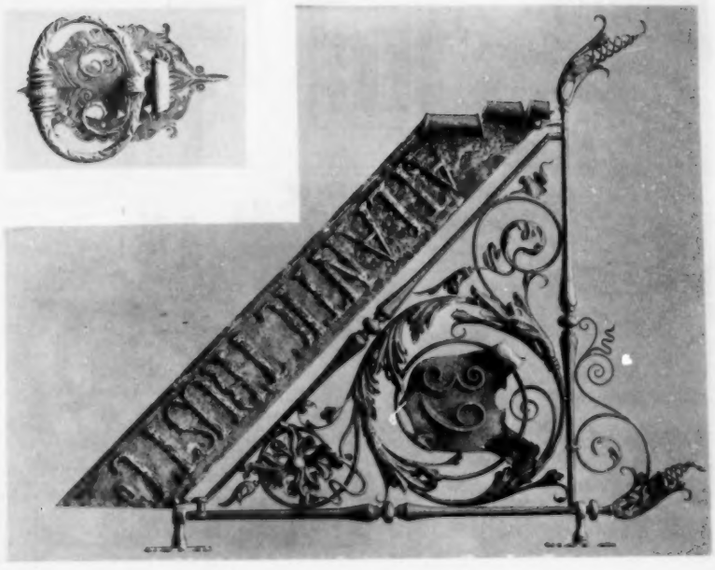
ADVERTISING PAGE.











SECTION OF ALTAR RAIL.

WROUGHT IRON WORK

BY

JOHN WILLIAMS, { FORMERLY AT 115-121 EAST 13th STREET. } 544-556 WEST 27th STREET. NEW YORK.

HELIOTYPE PRINTING CO., BOSTON.